

# ***PLANT SYSTEMS STANDARDS***



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*All Nevadans ready for success in the 21st century*

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*To improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence*



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### BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally recognized standards endorsed by business and industry.

The Plant Systems standards were validated through active participation of business and industry representatives on the development team.

### PROJECT COORDINATOR

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## INTRODUCTION

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of an advanced high school Plant Systems program. These standards are designed for a two-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

- **Content Standards** are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.
- **Performance Standards** follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.
- **Performance Indicators** are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives.

The crosswalk and alignment section of the document shows where the performance indicators support the Nevada Academic Content Standards. Where correlation with an academic content standard exists, students in the Plant Systems program perform learning activities that support, either directly or indirectly, achievement of the academic content standards that are listed.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to the Plant Systems program. CTSOs are co-curricular national organizations that directly reinforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTSOs provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the “soft skills” needed to be successful in all careers and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

The **Standards Reference Code** is only used to identify or align performance indicators listed in the standards to daily lesson plans, curriculum documents, or national standards. The Standards Reference Code is an abbreviated name for the program, and the content standard, performance standard and performance indicator are referenced in the program standards. This abbreviated code for identifying standards uses each of these items. For example, PLSYS is the Standards Reference Code for Plant Systems. For Content Standard 2, Performance Standard 3 and Performance Indicator 4 the Standards Reference Code would be PLSYS.2.3.4.

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**CONTENT STANDARD 1.0: INTEGRATE CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSOs)\*****PERFORMANCE STANDARD 1.1: EXPLORE THE HISTORY AND ORGANIZATION OF CTOS**

- 1.1.1 Discuss the requirements of CTSO participation/involvement as described in Carl D. Perkins Law
- 1.1.2 Research nationally recognized CTOS
- 1.1.3 Investigate the impact of federal and state government regarding the progression and operation of CTOS (e.g., Federal Statutes and Regulations, Nevada Administrative Code [NAC], Nevada Revised Statutes [NRS])

**PERFORMANCE STANDARD 1.2: DEVELOP LEADERSHIP SKILLS**

- 1.2.1 Discuss the purpose of parliamentary procedure
- 1.2.2 Demonstrate the proper use of parliamentary procedure
- 1.2.3 Differentiate between an office and a committee
- 1.2.4 Discuss the importance of participation in local, regional, state, and national conferences, events, and competitions
- 1.2.5 Participate in local, regional, state, or national conferences, events, or competitions
- 1.2.6 Describe the importance of a constitution and bylaws to the operation of a CTSO chapter

**PERFORMANCE STANDARD 1.3: PARTICIPATE IN COMMUNITY SERVICE**

- 1.3.1 Explore opportunities in community service-related work-based learning (WBL)
- 1.3.2 Participate in a service learning (program related) and/or community service project or activity
- 1.3.3 Engage with business and industry partners for community service

**PERFORMANCE STANDARD 1.4: DEVELOP PROFESSIONAL AND CAREER SKILLS**

- 1.4.1 Demonstrate college and career readiness (e.g., applications, resumes, interview skills, presentation skills)
- 1.4.2 Describe the appropriate professional/workplace attire and its importance
- 1.4.3 Investigate industry-standard credentials/certifications available within this Career Cluster™
- 1.4.4 Participate in authentic contextualized instructional activities
- 1.4.5 Demonstrate technical skills in various student organization activities/events

**PERFORMANCE STANDARD 1.5: UNDERSTAND THE RELEVANCE OF CAREER AND TECHNICAL EDUCATION (CTE)**

- 1.5.1 Make a connection between program standards to career pathway(s)
- 1.5.2 Explain the importance of participation and completion of a program of study
- 1.5.3 Promote community awareness of local student organizations associated with CTE programs

\*Refer to the program of study Curriculum Framework for appropriate CTSO(s).

**CONTENT STANDARD 2.0: EXAMINE THE ROLE OF AGRICULTURE IN SOCIETY****PERFORMANCE STANDARD 2.1: RECOGNIZE THE ROLE OF AGRICULTURE IN SOCIETY**

- 2.1.1 Assess how agriculture supports daily life
- 2.1.2 Describe the importance and value of global agricultural trade
- 2.1.3 Describe the various components of the agriculture industry (e.g., value chain)
- 2.1.4 Discuss the role of modern agriculture in basic human needs by identifying products used to provide food, clothing, and shelter (e.g., world food security)
- 2.1.5 Discuss the role of diverse cultures in developing American agriculture practices

**PERFORMANCE STANDARD 2.2: UNDERSTAND THE HISTORY OF PRODUCTION AGRICULTURE**

- 2.2.1 Compare agriculture's role in developing civilizations
- 2.2.2 Organize the major technological developments that have occurred in agriculture
- 2.2.3 Interpret historical events and trends that have led to the development of today's agriculture industry

**PERFORMANCE STANDARD 2.3: EXPLORE THE WORLD FOOD SUPPLY**

- 2.3.1 Analyze the impact of agriculture on the local, state, national, and world economies
- 2.3.2 Explain the role of government in the world's food supply



**CONTENT STANDARD 3.0: DEVELOP LEADERSHIP AND COMMUNICATION SKILLS THROUGH PARTICIPATION IN FFA****PERFORMANCE STANDARD 3.1: UNDERSTAND THE HISTORY AND ORGANIZATION OF FFA**

- 3.1.1 Summarize how, when, and why the National FFA Organization was founded
- 3.1.2 Describe the mission and strategies, colors, motto, parts of the emblem, and organizational structure of the National FFA Organization
- 3.1.3 Recite and explain the meaning of the FFA Creed
- 3.1.4 Explain the purpose of FFA's Program of Activities and describe its committee structure

**PERFORMANCE STANDARD 3.2: UNDERSTAND THE OPPORTUNITIES IN FFA**

- 3.2.1 Describe how FFA develops leadership skills, personal growth, and career success
- 3.2.2 Identify major state and national activities and awards available to FFA members
- 3.2.3 Compete in at least one Leadership or Career Development Event at the local level

**PERFORMANCE STANDARD 3.3: PROPERLY USE SKILLS IN PARLIAMENTARY PROCEDURE**

- 3.3.1 List three reasons why parliamentary procedure is used in meetings
- 3.3.2 List five classifications of motions
- 3.3.3 Properly perform ten procedures of parliamentary law

**PERFORMANCE STANDARD 3.4: UNDERSTAND THE IMPORTANCE OF SCHOOL AND COMMUNITY AWARENESS**

- 3.4.1 Discuss the meaning and importance of community service and some agriculture associated organizations
- 3.4.2 Explain how FFA members can become involved in community improvement and development, and plan an activity

**PERFORMANCE STANDARD 3.5: RECOGNIZE THE TRAITS OF EFFECTIVE LEADERS AND PARTICIPATE IN LEADERSHIP TRAINING THROUGH INVOLVEMENT IN FFA**

- 3.5.1 Expand leadership experience by serving as a chapter officer or on a committee
- 3.5.2 Participate in a career skill development event at least at the local level

**PERFORMANCE STANDARD 3.6: UNDERSTAND THE IMPORTANCE OF SCHOOL AND COMMUNITY AWARENESS**

- 3.6.1 Participate in a school improvement or community development project

**CONTENT STANDARD 4.0: DEVELOP A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) PROGRAM****PERFORMANCE STANDARD 4.1: UNDERSTAND THE BENEFITS OF AN SAE PROGRAM**

- 4.1.1 Participate in a foundational SAE
- 4.1.2 Explore an immersion SAE
- 4.1.3 Describe the value of SAE programs
- 4.1.4 Compare and contrast the six types of SAEs

**PERFORMANCE STANDARD 4.2: UNDERSTAND THE BENEFITS OF SAE RECORDS**

- 4.2.1 Analyze the importance of keeping records of an SAE program (Agricultural Experience Tracker [AET©])
- 4.2.2 Investigate the types of financial records needed to support a chosen SAE program
- 4.2.3 Demonstrate the procedures for making entries in The AET©
- 4.2.4 Reflect on The AET© Annual Review

**PERFORMANCE STANDARD 4.3: MAINTAIN A SUPERVISED AGRICULTURAL EXPERIENCE**

- 4.3.1 Accurately maintain SAE record books
- 4.3.2 Apply for proficiency award related to SAE program area
- 4.3.3 Actively pursue necessary steps to receive higher degrees in FFA

**CONTENT STANDARD 5.0: EXPLORING SCIENTIFIC INVESTIGATION IN AGRICULTURE****PERFORMANCE STANDARD 5.1: DESIGN AND CONDUCT AGRICULTURAL RESEARCH**

- 5.1.1 Explain that agriculture is a science
- 5.1.2 List the steps of the scientific method
- 5.1.3 Explain the steps in conducting research in agriculture and design an appropriate research project

**PERFORMANCE STANDARD 5.2: UNDERSTAND SCIENTIFIC MEASUREMENT**

- 5.2.1 Describe the systems of measurement used in this country
- 5.2.2 Determine the metric prefixes and units used for measuring length, volume weight, temperature, and area
- 5.2.3 Convert from one system of units to another system of units

**PERFORMANCE STANDARD 5.3: USE LABORATORY TOOLS AND EQUIPMENT**

- 5.3.1 Identify and properly use personal protection equipment (PPE)
- 5.3.2 Describe safety in agriscience laboratories
- 5.3.3 Demonstrate proper use of common agriscience equipment

**PERFORMANCE STANDARD 5.4: EXPLORE CAREERS IN AGRICULTURAL SCIENCE**

- 5.4.1 Identify basic career information related to agricultural science
- 5.4.2 Research several agricultural science careers

**CONTENT STANDARD 6.0: DEVELOP AN UNDERSTANDING OF ANIMAL SCIENCE****PERFORMANCE STANDARD 6.1: UNDERSTANDING CELLULAR BIOLOGY**

- 6.1.1 Explain a cell's role and compare and contrast the types of cells (prokaryotic and eukaryotic)
- 6.1.2 Analyze the components of an animal cell and explain their functions
- 6.1.3 Analyze the components of a plant cell and explain their functions
- 6.1.4 Differentiate between a plant and animal cell

**PERFORMANCE STANDARD 6.2: EXPLORE AND EVALUATE THE LIVESTOCK INDUSTRY**

- 6.2.1 Define terms used to describe beef cattle, dairy, sheep, swine, and horses and identify their external parts
- 6.2.2 Compare and contrast the common breeds of livestock
- 6.2.3 Identify and describe methods used to select different species of livestock
- 6.2.4 Evaluate livestock in a systematic, organized manner according to industry standards

**PERFORMANCE STANDARD 6.3: EXPLORE REPRODUCTIVE PHYSIOLOGY AND BREEDING SYSTEMS**

- 6.3.1 Compare and explain common breeding systems used in livestock production

**PERFORMANCE STANDARD 6.4: UNDERSTAND ANIMAL NUTRITION**

- 6.4.1 Identify the major parts and describe the functions of the digestive systems in livestock
- 6.4.2 Explore the major nutrients and their importance to animals

**PERFORMANCE STANDARD 6.5: UNDERSTAND ANIMAL HEALTH MANAGEMENT**

- 6.5.1 Measure animal health through visual and tangible observations
- 6.5.2 Identify good animal health management practices

**PERFORMANCE STANDARD 6.6: EXPLORE CAREERS IN ANIMAL SCIENCE**

- 6.6.1 Identify basic career information related to animal science
- 6.6.2 Research several animal science careers

**CONTENT STANDARD 7.0: UNDERSTANDING PLANT SCIENCE****PERFORMANCE STANDARD 7.1: UNDERSTAND PLANT ANATOMY**

- 7.1.1 Identify and describe the parts of a flower
- 7.1.2 Explain the purpose of a flower
- 7.1.3 Identify and describe the parts of a root
- 7.1.4 Explain the purpose of a root
- 7.1.5 Identify and describe the parts of a stem
- 7.1.6 Explain the purpose of a stem
- 7.1.7 Identify and describe the parts of a leaf
- 7.1.8 Explain the purpose of a leaf

**PERFORMANCE STANDARD 7.2: UNDERSTAND PLANT PHYSIOLOGY**

- 7.2.1 Describe the process of photosynthesis
- 7.2.2 Describe the process of cellular respiration
- 7.2.3 Explain the relationship between photosynthesis and respiration
- 7.2.4 Summarize why photosynthesis and respiration are important to human beings

**PERFORMANCE STANDARD 7.3: UNDERSTAND PLANT PROPAGATION**

- 7.3.1 Explain the importance of plant propagation
- 7.3.2 Explore the basic principles of crop production (food, forage, and fiber)
- 7.3.3 Identify and list the major parts of a seed
- 7.3.4 List the function of each major part of a seed
- 7.3.5 Describe and observe the process of seed germination
- 7.3.6 Describe the process of fertilization and pollination

**PERFORMANCE STANDARD 7.4: UNDERSTAND PLANT NUTRITION AND HEALTH**

- 7.4.1 Differentiate between macronutrients and micronutrients
- 7.4.2 Describe pH and how it is modified
- 7.4.3 Describe the components of a fertilizer (e.g., nitrogen, phosphorus, potassium [NPK])

**PERFORMANCE STANDARD 7.5: EXPLORE CAREERS IN PLANT SCIENCE**

- 7.5.1 Identify basic career information related to plant science
- 7.5.2 Research several plant science careers

**CONTENT STANDARD 8.0: EXPLORING SOIL SCIENCE****PERFORMANCE STANDARD 8.1: UNDERSTAND SOIL TEXTURE AND STRUCTURE**

- 8.1.1 List the components of soil
- 8.1.2 Describe the concept of soil texture and its importance
- 8.1.3 Classify the texture of a soil sample
- 8.1.4 Identify various soil structures, their formation, and importance in agriculture production

**PERFORMANCE STANDARD 8.2: EXPLORE CAREERS IN SOIL SCIENCE**

- 8.2.1 Identify basic career information related to soil science
- 8.2.2 Research several soil science careers

**CONTENT STANDARD 9.0: EXPLORING ORNAMENTAL HORTICULTURE**

**PERFORMANCE STANDARD 9.1: EXPLORE AREAS OF ORNAMENTAL HORTICULTURE**

- 9.1.1 Explore the Basic Principles of Landscape Design
- 9.1.2 Explore the Basic Principles of Greenhouse Management
- 9.1.3 Explore the Basic Principles of Floriculture
- 9.1.4 Explore the Basic Principles of Nursery Crop Production (e.g., gardening, cut flowers)

**PERFORMANCE STANDARD 9.2: EXPLORE CAREERS IN ORNAMENTAL HORTICULTURE**

- 9.2.1 Identify basic career information related to ornamental horticulture science
- 9.2.2 Research several ornamental horticulture science careers (e.g., landscape, greenhouse management, horticulture)

**CONTENT STANDARD 10.0: EXPLAIN BASIC SALES AND MARKETING CONCEPTS FOR AGRICULTURAL PRODUCTS****PERFORMANCE STANDARD 10.1: DEMONSTRATE AN UNDERSTANDING OF AGRICULTURAL MARKETING**

- 10.1.1 Identify current agriculture product marketing trends
- 10.1.2 Compare and contrast marketing and sales
- 10.1.3 Define the purpose for developing a marketing plan

**PERFORMANCE STANDARD 10.2: UNDERSTAND THE PRINCIPLES OF AGRICULTURAL SALES**

- 10.2.1 Identify the characteristics of an effective salesperson, and define related terms
- 10.2.2 Compare and contrast the relationship between marketing and selling
- 10.2.3 Describe the customer buying process
- 10.2.4 Identify the six steps involved in the selling process

**PERFORMANCE STANDARD 10.3: EXPLORE CAREERS IN SALES AND MARKETING**

- 10.3.1 Identify basic career information related to sales and marketing
- 10.3.2 Research several sales and marketing careers



**CONTENT STANDARD 11.0: UNDERSTAND THE RELATIONSHIP BETWEEN AGRICULTURE AND NATURAL RESOURCE MANAGEMENT****PERFORMANCE STANDARD 11.1: EXPLORE TYPES OF NATURAL RESOURCES**

- 11.1.1 Define and identify types of natural resources
- 11.1.2 Distinguish between renewable and nonrenewable resources
- 11.1.3 Compare the difference between inexhaustible and exhaustible resources

**PERFORMANCE STANDARD 11.2: UNDERSTAND HUMAN DEMAND ON NATURAL RESOURCES**

- 11.2.1 Recognize how humans use natural resources
- 11.2.2 Identify the urban and rural impacts of natural resource use
- 11.2.3 Analyze the impact of recycling and reusing resources

**PERFORMANCE STANDARD 11.3: COMPREHEND NATURAL RESOURCE CONSERVATION**

- 11.3.1 Compare and contrast conservation and preservation

**PERFORMANCE STANDARD 11.4: UNDERSTAND ECOLOGY AND ECOSYSTEMS**

- 11.4.1 Define ecology and ecosystems
- 11.4.2 Explain natural selection and succession
- 11.4.3 Identify biomes and explain ecosystem diversity
- 11.4.4 Diagram and explain the nitrogen, phosphorus, carbon, and water cycle

**PERFORMANCE STANDARD 11.5: EXPLORE PRINCIPLES OF RANGELAND MANAGEMENT**

- 11.5.1 Define range
- 11.5.2 Define multiple use
- 11.5.3 Identify Nevada's ecoregions (Sierra Nevada, Northern Basin and Range, Central Basin and Range, and Mojave Basin and Range)

**PERFORMANCE STANDARD 11.6: EXPLORE CAREERS IN NATURAL RESOURCE MANAGEMENT**

- 11.6.1 Identify basic career information related to natural resource management
- 11.6.2 Research several natural resource management careers

**CONTENT STANDARD 12.0: PRACTICE SAFETY IN THE ORNAMENTAL HORTICULTURE AND GREENHOUSE INDUSTRY****PERFORMANCE STANDARD 12.1: PROPERLY PERFORM SAFE WORK PRACTICES**

- 12.1.1 Identify and properly use personal protection equipment
- 12.1.2 Read, understand, and follow label directions and Safety Data Sheets (SDS)
- 12.1.3 Properly identify common hand tools and power equipment
- 12.1.4 Safely use common hand tools and power equipment
- 12.1.5 Complete worker protection handler verification card training
- 12.1.6 Complete produce handling safety training

**CONTENT STANDARD 13.0: UNDERSTANDING PLANT ANATOMY****PERFORMANCE STANDARD 13.1: UNDERSTAND ROOT ANATOMY**

- 13.1.1 Investigate the functions of roots in plants
- 13.1.2 Identify the parts of a root
- 13.1.3 Differentiate the two major types of root systems
- 13.1.4 Investigate specialized structures in roots (e.g., root tips)

**PERFORMANCE STANDARD 13.2: UNDERSTAND STEM ANATOMY**

- 13.2.1 List the functions of a stem
- 13.2.2 Recognize the external structures of a stem
- 13.2.3 Analyze the internal structures of a stem
- 13.2.4 Describe the difference between cell structures in monocots and dicots
- 13.2.5 Investigate specialized structures in stems

**PERFORMANCE STANDARD 13.3: UNDERSTAND LEAF ANATOMY**

- 13.3.1 Name the main parts of a leaf
- 13.3.2 Compare common vein patterns found in leaves
- 13.3.3 List three functions of a leaf, including photosynthetic energy conversion
- 13.3.4 Differentiate major leaf arrangements
- 13.3.5 Investigate specialized cell structures in a leaf

**PERFORMANCE STANDARD 13.4: UNDERSTAND FLOWER ANATOMY**

- 13.4.1 Label and describe the parts of a flower
- 13.4.2 Summarize the purpose of a flower
- 13.4.3 Distinguish between different types of flowers
- 13.4.4 Describe the difference between monocot and dicot flowers
- 13.4.5 Diagram the process of plant fertilization

**CONTENT STANDARD 14.0: UNDERSTANDING PLANT PHYSIOLOGY****PERFORMANCE STANDARD 14.1: EXAMINE ENERGY CONVERSION IN PLANTS**

- 14.1.1 Interpret the process of photosynthesis
- 14.1.2 Interpret the process of cellular respiration
- 14.1.3 Compare the process of cellular respiration to photosynthesis

**PERFORMANCE STANDARD 14.2: EXAMINE TRANSPORT WITHIN A PLANT SYSTEM**

- 14.2.1 Compare the active and passive transport of minerals into the root system and throughout the plant system
- 14.2.2 Compare the structure and function of xylem and phloem cells and tissues
- 14.2.3 Describe the process of translocation

**PERFORMANCE STANDARD 14.3: EXAMINE ENVIRONMENTAL REQUIREMENTS FOR PLANT GROWTH**

- 14.3.1 Examine the effects of light quality on plant growth (e.g., spectrum, foot candles)
- 14.3.2 Examine the effects of water quality on plant growth (e.g., pH, hardness)
- 14.3.3 Examine the effects of temperature on plant growth

**PERFORMANCE STANDARD 14.4: RESEARCH PLANT GROWTH REGULATORS**

- 14.4.1 Compare the functions of plant hormones
- 14.4.2 Examine commercial uses for plant growth regulators

**PERFORMANCE STANDARD 14.5: EXPLORE PLANT TROPISMS**

- 14.5.1 Investigate plant tropisms (e.g., gravi-, hydro-, photo-, thigmo-)

**CONTENT STANDARD 15.0: USE PLANT IDENTIFICATION SKILLS****PERFORMANCE STANDARD 15.1: CATEGORIZE PLANTS**

- 15.1.1 Correctly categorize common plants by life cycle (e.g., annuals, perennials, etc.)
- 15.1.2 Correctly categorize plants by growth habits (e.g., mounding, trailing, etc.)
- 15.1.3 Utilize resources to establish plant suitability for a selected site (i.e., Hardiness Zone Maps, Heat Zone Maps)
- 15.1.4 Identify common plants by botanical and common names
- 15.1.5 Explore the structural differences between monocot and dicot plants

**CONTENT STANDARD 16.0: EXPLORE GROWING MEDIA****PERFORMANCE STANDARD 16.1: UNDERSTAND SOIL TEXTURE AND STRUCTURE**

- 16.1.1 List the components of soil
- 16.1.2 Describe the concept of soil texture and its importance
- 16.1.3 Classify the texture of a soil sample (e.g., texture triangle)
- 16.1.4 Identify various soil structures, their formation, and importance in agriculture production

**PERFORMANCE STANDARD 16.2: EXPLORE SOILLESS GROWING MEDIA**

- 16.2.1 Identify the components and source of soilless growing media
- 16.2.2 Describe the functions of growing media
- 16.2.3 Determine desirable properties of growing media (e.g., drainage, organic matter, micro-organisms, water holding capacity and permeability)
- 16.2.4 Evaluate the advantages and disadvantages of soilless media

**PERFORMANCE STANDARD 16.3: EXPLORE CHEMICAL CHARACTERISTICS OF GROWING MEDIA**

- 16.3.1 Test and determine pH level of various growing media
- 16.3.2 Interpret pH test results of a growing media sample
- 16.3.3 Test and determine the electrical conductivity of various growing media
- 16.3.4 Interpret electrical conductivity test results of a growing media sample
- 16.3.5 Interpret soil test results and make recommendation(s)

**CONTENT STANDARD 17.0: EXPLORE PLANT NUTRITION****PERFORMANCE STANDARD 17.1: EXPLORE FERTILIZER FORMULATION**

- 17.1.1 Identify the components of a fertilizer and their role in the biochemical cycle
- 17.1.2 Interpret a fertilizer label
- 17.1.3 Categorize methods of application (e.g., granular, time released, injector, foliar)
- 17.1.4 Develop a fertilizer management plan for a greenhouse crop
- 17.1.5 Discuss the importance of minerals to plant nutrition (e.g., cation exchange)

**PERFORMANCE STANDARD 17.2: EXPLORE THE FUNCTION OF PLANT NUTRIENTS**

- 17.2.1 Correlate plant symptoms to the appropriate nutritional deficiency (e.g., nitrogen deficiency, yellowing leaves)
- 17.2.2 Correlate plant symptoms to the appropriate plant toxicity (e.g., fertilizer burn, leaf tip burn)

**CONTENT STANDARD 18.0: EXPLORE INTEGRATED PEST MANAGEMENT (IPM)****PERFORMANCE STANDARD 18.1: DESCRIBE INTEGRATED PEST MANAGEMENT**

- 18.1.1 Define Integrated Pest Management (IPM)
- 18.1.2 Summarize the benefits of IPM

**PERFORMANCE STANDARD 18.2: EXPLORE COMMON PESTS AND DISEASES**

- 18.2.1 Identify types of plant pests and diseases
- 18.2.2 Identify weed, insect, rodent, and fungi pests
- 18.2.3 Differentiate between infectious and noninfectious diseases
- 18.2.4 Design an ongoing plan for pest management and prevention

**PERFORMANCE STANDARD 18.3: EXPLAIN PROCEDURES FOR THE SAFE HANDLING, USE, AND STORAGE OF PESTICIDES**

- 18.3.1 Identify and utilize appropriate safety measures when applying pesticides
- 18.3.2 Interpret pesticide labels
- 18.3.3 Explain procedures for storing and disposing of pesticides
- 18.3.4 Evaluate environmental and consumer concerns regarding pest management and biodiversity
- 18.3.5 Create a formulation for a pesticide mixture based on label directions
- 18.3.6 Explore requirements for obtaining pesticide applicator licenses



**CONTENT STANDARD 19.0: DEMONSTRATE PLANT PROPAGATION****PERFORMANCE STANDARD 19.1: UNDERSTAND PROPAGATION BY SEED**

- 19.1.1 Diagram the process of seed germination
- 19.1.2 Identify the conditions needed for seed germination
- 19.1.3 Compare the methods of seed preparation
- 19.1.4 Demonstrate techniques for sowing seeds
- 19.1.5 Determine germination percent

**PERFORMANCE STANDARD 19.2: UNDERSTAND ASEXUAL PROPAGATION**

- 19.2.1 Summarize optimum conditions for asexual propagation
- 19.2.2 Demonstrate or model techniques used to propagate plants by cutting
- 19.2.3 Demonstrate or model techniques used to propagate plants by division
- 19.2.4 Demonstrate or model techniques used to propagate plants by separation
- 19.2.5 Demonstrate or model techniques used to propagate plants by layering

**CONTENT STANDARD 20.0: GROWING GREENHOUSE CROPS****PERFORMANCE STANDARD 20.1: PREPARE FOR CROP PRODUCTION**

- 20.1.1 Plan a growing schedule to maximize the production of a greenhouse facility
- 20.1.2 Utilize best management practices when spacing greenhouse crops in practice or through modeling
- 20.1.3 Select appropriate containers and medium for a greenhouse crop

**PERFORMANCE STANDARD 20.2: PERFORM GROWTH MAINTENANCE PROCEDURES**

- 20.2.1 Compare and contrast hard and soft pinches while using best management practices
- 20.2.2 Pinch plants using best management practices
- 20.2.3 Demonstrate proper watering techniques
- 20.2.4 Develop a plant lighting schedule for a greenhouse crop
- 20.2.5 Develop a fertilizer schedule for a greenhouse crop

**PERFORMANCE STANDARD 20.3: PERFORM TRANSPLANTING**

- 20.3.1 Identify the proper stage of plant growth for transplanting
- 20.3.2 Select appropriate plants for transplanting
- 20.3.3 Demonstrate transplanting procedures to industry standards

**PERFORMANCE STANDARD 20.4: PREPARE PLANTS FOR SALE**

- 20.4.1 Compare hardening processes
- 20.4.2 Prepare plants for sale using best management practices

**CONTENT STANDARD 21.0: EXPLORE GREENHOUSE BUSINESS CONCEPTS**

**PERFORMANCE STANDARD 21.1: EXPLAIN THE BASICS OF MARKETING IN THE GREENHOUSE INDUSTRY**

- 21.1.1 Compare and contrast advertising methods
- 21.1.2 Define the purpose for developing a marketing plan
- 21.1.3 Create a horticulture business display to a target market

**PERFORMANCE STANDARD 21.2: UNDERSTAND THE PRINCIPLES OF SALES**

- 21.2.1 Compare and contrast the relationship between marketing and selling
- 21.2.2 Calculate markup
- 21.2.3 Complete a sales ticket

**CONTENT STANDARD 22.0: EXPLORING PLANT TECHNOLOGIES****PERFORMANCE STANDARD 22.1: EXPLORE SELECTIVE PLANT BREEDING**

- 22.1.1 Describe the selective plant breeding process
- 22.1.2 Explain how to estimate the heritability of certain traits
- 22.1.3 Predict the genotypes and phenotypes from monohybrid and dihybrid crosses using a Punnett Square
- 22.1.4 Describe sex determination, linkage, crossover, and mutation

**PERFORMANCE STANDARD 22.2: EXAMINE GENETIC ENGINEERING OF PLANTS**

- 22.2.1 Explain the advantages and disadvantages for genetic manipulation of plants
- 22.2.2 Investigate transgenic plants on the market (e.g., hybrids, genetically modified organisms)

**PERFORMANCE STANDARD 22.3: DESCRIBE MICROPROPAGATION TECHNIQUES**

- 22.3.1 Define micropropagation and its importance
- 22.3.2 Explain applications of micropropagation
- 22.3.3 Describe procedures used in micropropagation

**PERFORMANCE STANDARD 22.4: EXPLORE HYDROPONIC TECHNIQUES**

- 22.4.1 Define hydroponics and its importance to society
- 22.4.2 Explain applications of hydroponics and determine costs and benefits
- 22.4.3 Describe procedures used in hydroponic plant production
- 22.4.4 Design and implement a hydroponic system
- 22.4.5 Analyze the efficiency of implemented hydroponic system designs

**CONTENT STANDARD 23.0: EXPLORE CAREER OPPORTUNITIES IN HORTICULTURE AND PLANT SCIENCE****PERFORMANCE STANDARD 23.1: EXPLORE CAREERS IN HORTICULTURE AND PLANT SCIENCE**

- 23.1.1 Research potential careers in horticulture and plant science
- 23.1.2 Prepare a list of employability skills for a career in the horticulture and plant science industries
- 23.1.3 Explore training and educational opportunities in horticulture and plant science industries
- 23.1.4 Research additional industry certifications available

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**CROSSWALKS AND ALIGNMENTS****CROSSWALKS (ACADEMIC STANDARDS)**

The crosswalk of the Plant Systems Standards shows links to the Nevada Academic Content Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Plant Systems program support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the Nevada Academic Content Standards in English Language Arts, Mathematics, and Science.

**ALIGNMENTS (MATHEMATICAL PRACTICES)**

In addition to correlation with the Nevada Academic Content Standards for Mathematics, many performance indicators support the Mathematical Practices. The following table illustrates the alignment of the Plant Systems Standards Performance Indicators and the Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Plant Systems program support academic learning.

**ALIGNMENTS (SCIENCE AND ENGINEERING PRACTICES)**

In addition to correlation with the Nevada Academic Content Standards for Science, many performance indicators support the Science and Engineering Practices. The following table illustrates the alignment of the Plant Systems Standards Performance Indicators and the Science and Engineering Practices. This alignment identifies the performance indicators in which the learning objectives in the Plant Systems program support academic learning.

**CROSSWALKS (COMMON CAREER TECHNICAL CORE)**

The crosswalk of the Plant Systems Standards shows links to the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Plant Systems program support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Plant Systems Standards are crosswalked to the Agriculture, Foods, and Natural Resources Career Cluster™ and the Plant Systems Career Pathway.

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**CROSSWALK OF PLANT SYSTEMS STANDARDS  
AND THE NEVADA ACADEMIC CONTENT STANDARDS**

**CONTENT STANDARD 1.0: INTEGRATE CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSOs)**

Performance Indicators	Nevada Academic Content Standards
1.1.1	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>
1.1.2	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
1.1.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
1.2.1	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>
1.2.4	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>
1.2.5	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
1.4.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

Performance Indicators	Nevada Academic Content Standards
1.4.2	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
1.4.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
1.4.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>
1.4.5	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>

Performance Indicators	Nevada Academic Content Standards
1.5.2	<p><b>English Language Arts: Language Standards</b>                      L.11-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

CONTENT STANDARD 2.0: EXAMINE THE ROLE OF AGRICULTURE IN SOCIETY

Performance Indicators	Nevada Academic Content Standards
2.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p>
2.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p>

Performance Indicators	Nevada Academic Content Standards
2.1.3	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Engineering Design</b></p> <p>HS-ETS1-1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p>
2.1.4	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Earth and Human Activity</b></p> <p>HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p>

Performance Indicators	Nevada Academic Content Standards
2.1.5	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Engineering Design</b></p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>
2.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b></p> <p>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b></p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b></p> <p>HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p>
2.2.2	<p><b>Science: HS-Engineering Design</b></p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>

Performance Indicators	Nevada Academic Content Standards
2.2.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Engineering Design</b>  HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>
2.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-Engineering Design</b>  HS-ETS1-1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p>
2.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Engineering Design</b>  HS-ETS1-1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p>



CONTENT STANDARD 3.0: DEVELOP LEADERSHIP AND COMMUNICATION SKILLS THROUGH PARTICIPATION IN FFA

Performance Indicators	Nevada Academic Content Standards
3.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
3.1.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
3.1.4	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
3.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
3.4.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
3.4.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

**CONTENT STANDARD 4.0: DEVELOP A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) PROGRAM**

Performance Indicators	Nevada Academic Content Standards
4.1.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
4.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
4.1.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>
4.2.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
4.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
4.2.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>

CONTENT STANDARD 5.0: EXPLORING SCIENTIFIC INVESTIGATION IN AGRICULTURE

Performance Indicators	Nevada Academic Content Standards
5.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
5.1.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
5.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
5.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
5.4.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

CONTENT STANDARD 6.0: DEVELOP AN UNDERSTANDING OF ANIMAL SCIENCE

Performance Indicators	Nevada Academic Content Standards
6.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>
6.1.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>
6.1.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>

Performance Indicators	Nevada Academic Content Standards
6.1.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>
6.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>            SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>
6.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
6.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>



Performance Indicators	Nevada Academic Content Standards
6.4.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
6.4.2	<p><b>Science: HS-Energy</b>                      HS-PS3-3 Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.</p>
6.6.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

## CONTENT STANDARD 7.0: UNDERSTANDING PLANT SCIENCE

Performance Indicators	Nevada Academic Content Standards
7.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.1.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

Performance Indicators	Nevada Academic Content Standards
7.1.4	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.1.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.1.6	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

Performance Indicators	Nevada Academic Content Standards
7.1.7	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.1.8	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-5 Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.</p>

Performance Indicators	Nevada Academic Content Standards
7.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-7 Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.</p>
7.2.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-7 Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.</p>
7.2.4	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-7 Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.</p>

Performance Indicators	Nevada Academic Content Standards
7.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> 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.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
7.3.3	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.3.4	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

Performance Indicators	Nevada Academic Content Standards
7.3.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
7.3.6	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

Performance Indicators	Nevada Academic Content Standards
7.4.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Matter and Its Interactions</b>  HS-PS1-4 Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</p>
7.4.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Matter and Its Interactions</b>  HS-PS1-4 Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</p>



Performance Indicators	Nevada Academic Content Standards
7.4.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Matter and Its Interactions</b>                      HS-PS1-4 Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</p>
7.5.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

## CONTENT STANDARD 8.0: EXPLORING SOIL SCIENCE

Performance Indicators	Nevada Academic Content Standards
8.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
8.1.4	<p><b>Science: HS-Earth's Systems</b>  HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.</p>
8.2.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

## CONTENT STANDARD 9.0: EXPLORING ORNAMENTAL HORTICULTURE

Performance Indicators	Nevada Academic Content Standards
9.1.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
9.1.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
9.1.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
9.1.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
9.2.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

## CONTENT STANDARD 10.0: EXPLAIN BASIC SALES AND MARKETING CONCEPTS FOR AGRICULTURAL PRODUCTS

Performance Indicators	Nevada Academic Content Standards
10.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>
10.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>
10.3.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

**CONTENT STANDARD 11.0: UNDERSTAND THE RELATIONSHIP BETWEEN AGRICULTURE AND NATURAL RESOURCE MANAGEMENT**

Performance Indicators	Nevada Academic Content Standards
11.1.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>
11.1.3	<p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>
11.2.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-3 Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.</p>
11.2.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p>
11.2.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p> <p>HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p>

Performance Indicators	Nevada Academic Content Standards
11.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p><b>Science: HS-Earth and Human Activity</b> HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p>
11.4.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b> HS-LS2-8 Evaluate the evidence for the role of group behavior on individual and species’ chances to survive and reproduce.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-2 Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b> HS-LS4-4 Construct an explanation based on evidence for how natural selection leads to adaptation of populations.</p>
11.4.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b> HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</p>

Performance Indicators	Nevada Academic Content Standards
11.4.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth’s Systems</b>                      HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.                      HS-ESS2-6 Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>                      HS-LS2-4 Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.                      HS-LS2-5 Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.</p>
11.5.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
11.5.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
11.5.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth’s Systems</b>                      HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth’s surface can create feedbacks that cause changes to other Earth systems.</p>
11.6.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

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Performance Indicators	Nevada Academic Content Standards
11.6.2	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.



**CONTENT STANDARD 12.0: PRACTICE SAFETY IN THE ORNAMENTAL HORTICULTURE AND GREENHOUSE INDUSTRY**

Performance Indicators	Nevada Academic Content Standards
12.1.1	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
12.1.2	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
12.1.5	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
12.1.6	<b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

## CONTENT STANDARD 13.0: UNDERSTANDING PLANT ANATOMY

Performance Indicators	Nevada Academic Content Standards
13.1.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
13.1.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
13.2.1	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>
13.2.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
13.2.4	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>                      HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.                      HS-LS2-2 Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.</p>
13.2.5	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
13.3.3	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

Performance Indicators	Nevada Academic Content Standards
13.3.5	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
13.4.2	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
13.4.4	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>            SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>            HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.</p> <p>HS-LS2-2 Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.</p>

CONTENT STANDARD 14.0: UNDERSTANDING PLANT PHYSIOLOGY

Performance Indicators	Nevada Academic Content Standards
14.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-5 Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.</p>
14.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-6 Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</p>
14.1.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-6 Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</p>
14.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2d Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p>

Performance Indicators	Nevada Academic Content Standards
14.2.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.2d Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
14.2.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
14.3.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>
14.3.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>
14.3.3	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>

Performance Indicators	Nevada Academic Content Standards
14.4.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>
14.4.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>
14.5.1	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>            HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p>

## CONTENT STANDARD 15.0: USE PLANT IDENTIFICATION SKILLS

Performance Indicators	Nevada Academic Content Standards
15.1.1	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.
15.1.2	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.
15.1.3	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.
15.1.4	<b>English Language Arts: Language Standards</b> L.11-12.2b Spell correctly.
15.1.5	<b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.  <b>Science: HS-From Molecules to Organisms: Structures and Processes</b> HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.  HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.



CONTENT STANDARD 16.0: EXPLORE GROWING MEDIA

Performance Indicators	Nevada Academic Content Standards
16.1.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
16.2.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>
16.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>
16.3.4	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>
16.3.5	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Earth and Human Activity</b>                      HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>

## CONTENT STANDARD 17.0: EXPLORE PLANT NUTRITION

Performance Indicators	Nevada Academic Content Standards
17.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
17.1.4	<p><b>English Language Arts: Speaking and Listening Standards</b>  SL.11-12.3 Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>  WHST.11-12.2d Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-Earth and Human Activity</b>  HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p>
17.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>  HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>
17.2.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>  RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>  HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

CONTENT STANDARD 18.0: EXPLORE INTEGRATED PEST MANAGEMENT (IPM)

Performance Indicators	Nevada Academic Content Standards
18.1.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>                      HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</p>
18.2.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>                      HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</p>
18.2.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-Ecosystems: Interactions, Energy, and Dynamics</b>                      HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</p>
18.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      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.</p>
18.3.2	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
18.3.3	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>

Performance Indicators	Nevada Academic Content Standards
18.3.4	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b>            HS-LS4-5 Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.</p>
18.3.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            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.</p>

CONTENT STANDARD 19.0: DEMONSTRATE PLANT PROPAGATION

Performance Indicators	Nevada Academic Content Standards
19.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      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.</p>
19.1.5	<p><b>Math: Algebra – Seeing Structure in Expressions</b>                      ASSE.A.1 Interpret expressions that represent a quantity in terms of its context.</p>
19.2.2	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
19.2.3	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
19.2.4	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>                      WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
19.2.5	<p><b>English Language Arts: Speaking and Listening Standards</b>            SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

**CONTENT STANDARD 20.0: GROWING GREENHOUSE CROPS**

Performance Indicators	Nevada Academic Content Standards
20.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      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.</p>
20.2.1	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>
20.2.4	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      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.</p>
20.2.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      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.</p>
20.3.1	<p><b>Science: HS-From Molecules to Organisms: Structures and Processes</b>                      HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>

## CONTENT STANDARD 21.0: EXPLORE GREENHOUSE BUSINESS CONCEPTS

Performance Indicators	Nevada Academic Content Standards
21.1.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>
21.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>            RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b>            WHST.11-12.1c Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>
21.2.3	<p><b>English Language Arts: Language Standards</b>            L.11-12.2b Spell correctly.</p>



CONTENT STANDARD 22.0: EXPLORING PLANT TECHNOLOGIES

Performance Indicators	Nevada Academic Content Standards
22.1.1	<p><b>English Language Arts: Language Standards</b> L.11-12.1a Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p>
22.1.2	<p><b>English Language Arts: Language Standards</b> L.11-12.2b Spell correctly.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-3 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</p>
22.1.3	<p><b>English Language Arts: Language Standards</b> L.11-12.2b Spell correctly.</p> <p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-3 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</p>
22.1.4	<p><b>English Language Arts: Language Standards</b> L.11-12.4a Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase.</p> <p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-3 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</p>

Performance Indicators	Nevada Academic Content Standards
22.2.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-3 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</p>
22.2.2	<p><b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-3 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</p>
22.3.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b> RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p>
22.3.2	<p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p>
22.3.3	<p><b>English Language Arts: Speaking and Listening Standards</b> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Heredity: Inheritance and Variation of Traits</b> HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p>

Performance Indicators	Nevada Academic Content Standards
22.4.1	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b>                      HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p>
22.4.2	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b>                      HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p>
22.4.3	<p><b>English Language Arts: Speaking and Listening Standards</b>                      SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b>                      HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p>
22.4.4	<p><b>Science: HS-Biological Evolution: Unity and Diversity</b>                      HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p>
22.4.5	<p><b>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</b>                      RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><b>Science: HS-Biological Evolution: Unity and Diversity</b>                      HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p>

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**CONTENT STANDARD 23.0: EXPLORE CAREER OPPORTUNITIES IN HORTICULTURE AND PLANT SCIENCE**

Performance Indicators	Nevada Academic Content Standards
23.1.1	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
23.1.3	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
23.1.4	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

**CONTENT STANDARD 24.0: PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN FFA**

Performance Indicators	Nevada Academic Content Standards
24.1.1	<p><b>English Language Arts: Speaking and Listening Standards</b></p> <p>SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.</p>

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**CONTENT STANDARD 25.0: DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE**

Performance Indicators	Nevada Academic Content Standards
25.1.1	<b>English Language Arts: Language Standards</b> L.11-12.2b Spell correctly.
25.1.2	<b>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</b> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

**ALIGNMENT OF PLANT SYSTEMS STANDARDS  
AND THE MATHEMATICAL PRACTICES**

Mathematical Practices	Plant Systems Performance Indicators
1. Make sense of problems and persevere in solving them.	14.1.1 16.3.1, 16.3.3
2. Reason abstractly and quantitatively.	14.1.1, 14.1.2 16.1.1, 16.3.3 21.1.2
3. Construct viable arguments and critique the reasoning of others.	
4. Model with mathematics.	17.1.2 18.3.5 20.1.1, 20.2.5; 21.2.2, 21.2.3; 25.1.1, 25.1.2
5. Use appropriate tools strategically.	14.3.1, 14.3.2; 14.3.3 16.3.1, 16.3.3 18.3.5 21.2.3; 25.1.1, 25.1.2
6. Attend to precision.	16.3.1, 16.3.3 17.1.3 18.3.5 21.2.3; 25.1.1, 25.1.2
7. Look for and make use of structure.	14.1.1, 14.1.2
8. Look for and express regularity in repeated reasoning.	17.1.4

**ALIGNMENT OF PLANT SYSTEMS STANDARDS  
AND THE SCIENCE AND ENGINEERING PRACTICES**

Science and Engineering Practices	Plant Systems Performance Indicators
1. Asking questions (for science) and defining problems (for engineering).	2.2.1; 2.3.1 6.1.2-6.1.4; 6.3.1; 6.4.2 7.2.4; 7.3.2; 7.4.1 8.1.3, 8.1.4 11.1.2, 11.1.3; 11.2.3; 11.3.1
2. Developing and using models.	2.1.3, 2.1.4 5.1.3 6.1.4; 6.2.4; 6.5.2 7.2.3; 7.3.2; 7.4.1 8.1.3 11.1.2, 11.1.3; 11.2.1; 11.3.1; 11.4.4
3. Planning and carrying out investigations.	7.3.5
4. Analyzing and interpreting data.	11.2.3
5. Using mathematics and computational thinking.	19.1.5; 21.2.2
6. Constructing explanations (for science) and designing solutions (for engineering).	5.1.1, 5.1.3 6.1.1-6.1.3 7.1.2, 7.1.4, 7.1.6, 7.1.8; 7.2.3; 7.3.1 11.4.2 16.2.4 18.2.4; 18.3.4 20.1.1, 20.2.5
7. Engaging in argument from evidence.	
8. Obtaining, evaluating, and communicating information.	5.3.1, 5.3.3 7.4.1 8.1.3 11.1.2; 11.4.4



**CROSSWALKS OF PLANT SYSTEMS STANDARDS  
AND THE COMMON CAREER TECHNICAL CORE**

Agriculture, Food, and Natural Resources Career Cluster™	Performance Indicators
1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food, and Natural Resources Career Cluster™.	2.1.1-2.1.5; 2.2.1-2.2.3, 2.3.1; 2.3.2; 6.2.4
2. Evaluate the nature and scope of the Agriculture, Food, and Natural Resources Career Cluster™ and the role of agriculture, food, and natural resources (AFNR) in society and the economy.	2.1.1-2.1.5; 2.2.1-2.2. 3 2.3.1, 2.3.2
3. Examine and summarize the importance of health, safety and environmental management systems in AFNR businesses.	6.5.1, 6.5.2,
4. Demonstrate stewardship of natural resources in AFNR activities.	11.1.1-11.1.3 11.2.1-11.2.3, 11.3.1 11.4.1-11.4.4 11.5.1-11.5.3,
5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, and Natural Resources Career Pathways.	6.6.2; 7.5.2; 8.2.2; 9.2.2 10.3.2; 11.6.2 12.1.1-12.1.3 14.1.1-14.1.3
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.	

Plant Systems Career Pathway	Performance Indicators
1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors.	16.3.1-16.3.4 17.1.4; 17.2.1, 17.2.2
2. Apply the principles of classification, plant anatomy and plant physiology to plant production and management.	13.1.1-13.1.4; 13.2.1-13.2.4; 13.3.1-13.3.5 13.4.1-13.4.4 14.1.1-14.1.3 14.2.1-14.2.3 14.3.1-14.3.3, 14.4.1, 14.4.2, 14.5.1; 15.1.1-15.1.4
3. Propagate, culture and harvest plants and plant products based on current industry standards.	19.1.1-19.1.5, 19.2.1-19.2.5, 20.1.1-20.1.3, 20.2.1-20.2.5, 20.3.1-20.3.3, 20.4.1-20.4.2 22.3.1-22.3.3
4. Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape, and farm).	20.4.2