AGRICULTURE & NATURAL RESOURCES
MIDDLE SCHOOL STANDARDS

This document was prepared by:

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VISION

All Nevadans ready for success in the 21st century

MISSION

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

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ACKNOWLEDGEMENTS

The Department of Education relies on teachers and industry representatives who have the technical expertise and teaching experience to develop standards and performance indicators that truly measure student skill attainment. Most important, however, is recognition of the time, expertise and great diligence provided by the writing team members in developing the career and technical standards for middle school Agriculture & Natural Resources.

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ALIGNMENT TO CTE STANDARDS

Middle school standards are aligned to CTE program areas and broadly built upon high school CTE standards within a program area. All CTE standards developed through the Nevada Department of Education are validated by business and industry. Middle school standards are designed to provide foundational knowledge about careers in a program area with hands-on learning, leadership development, and career exploration.

The six program areas in Career and Technical Education are: Agriculture and Natural Resources; Business and Marketing Education; Education, Hospitality and Human Services; Health Science and Public Safety; Information and Media Technologies; and Skilled and Technical Sciences.

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 a middle school course in Agriculture & Natural Resources. These standards may assist the student in their career pathway decision-making before entering high school.

These standards are designed for the student to complete all standards in a one semester course. These standards are intended to guide curriculum objectives for a middle school course in Agriculture & Natural Resources.

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 course.

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 course learning objectives.

The crosswalk and alignment section of the document shows where the performance indicators support the Nevada Academic Content Standards in Science (based on the Next Generation Science Standards) and in English Language Arts and Mathematics (based on the Common Core State Standards). Where correlation with academic content standards and practices exist, students in the middle school Agriculture & Natural Resources course perform learning activities that support, either directly or indirectly, achievement of the academic content standards that are listed.

Career and Technical Student Organizations are co-curricular national associations that directly enforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. Some CTSOs have middle school level programs and can offer students the opportunity to develop leadership skills and apply what they learn in the area of Agriculture & Natural Resources.

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.

Agriculture: Agriculture & Natural Resources Standards Reference Code: **MSAG**

Example: MSAG.2.3.4

Standards	Content Standard	Performance Standard	Performance Indicator
Agriculture & Natural Resources	2	3	4

CONTENT STANDARD 1.0 : UNDERSTAND CAREERS AND THE NATURE OF WORK

PERFORMANCE STANDARD 1.1 : EXPLORE CAREER PATHWAYS

- 1.1.1 Relate your skills, interests, talents, and values to a career pathway
- 1.1.2 Explain careers in each of the Career Clusters
- 1.1.3 Research the pathway to a career of interest
- 1.1.4 Describe the difference between various types of academic degrees and other credentials
- 1.1.5 Discuss the importance of company dress codes
- 1.1.6 Create or review an academic and career plan
- 1.1.7 Define terms used within technical careers

PERFORMANCE STANDARD 1.2 : COLLABORATE WITH OTHERS

- 1.2.1 Practice communicating with others in a variety of ways to explain an idea, solution, or problem
- 1.2.2 Explain what it means to be reliable and honest
- 1.2.3 Demonstrate leadership skills through participation in a school activity, club, or career and technical student organization
- 1.2.4 Plan and/or participate in a community service project
- 1.2.5 Demonstrate conflict-resolution skills
- 1.2.6 Demonstrate critical-thinking and problem-solving skills
- 1.2.7 Practice active listening skills

PERFORMANCE STANDARD 1.3 : PRACTICE LEADERSHIP ROLES

- 1.3.1 Demonstrate language, attitude, and manners suitable for the workplace
- 1.3.2 Assume different roles on a team to accomplish a goal
- 1.3.3 Discuss characteristics of a leader and a team member
- 1.3.4 Prepare and make a presentation in front of a group
- 1.3.5 Practice speaking to adults in an interview format
- 1.3.6 Describe the importance of personal appearance
- 1.3.7 Utilize a timeline to manage a project

CONTENT STANDARD 2.0 : AGRICULTURE AND YOU
PERFORMANCE STANDARD 2.1 : DEFINE THE CAREER AREA OF AGRICULTURE, FOOD, & NATURAL RESOURCES
2.1.1 Discuss the history of agriculture and describe the differences between domesticated vs wild species
2.1.2 Explain how humans depend on agriculture to meet their basic needs
2.1.3 Define types of Supervised Agricultural Experience/work-based learning opportunities in Agricultural Education: Foundational, Entrepreneurship/Ownership, Placement/Internships, Research, School Business Enterprises, and Service Learning
PERFORMANCE STANDARD 2.2 : EXPLORE OPPORTUNITIES IN FFA
2.2.1 Describe how FFA develops leadership skills, personal growth, and career success
2.2.2 Demonstrate organization and record keeping skills to promote success
2.2.3 Explain opportunities in the FFA available to middle and high school FFA members
PERFORMANCE STANDARD 2.3 : DEVELOP PERSONAL SKILLS
2.3.1 Demonstrate proper social skills in multiple settings
2.3.2 Explain the importance of goal setting in your personal life

CONTENT STANDARD 3.0 : NATURAL RESOURCES/ENVIRONMENTAL MANAGEMENT
PERFORMANCE STANDARD 3.1 : SUMMARIZE THE IMPORTANCE OF ENVIRONMENTAL SUCCESSION
3.1.1 Describe the interdependence of organisms within an ecosystem 3.1.2 Identify plants and animals within Nevada's Ecoregions including invasive species 3.1.3 Describe the differences between conservation and preservation 3.1.4 Explore climate change/environmental effects in Agriculture & Natural Resources
PERFORMANCE STANDARD 3.2 : PROMOTE ENVIRONMENTAL AWARENESS
3.2.1 Explain point and nonpoint source pollution and identify prevention methods 3.2.2 Identify main types of waste and describe environmentally sound methods of waste disposal 3.2.3 Determine methods to mitigate the effects of fire on the environment and living things (wildlife, horses, Sage-Grouse, deer, etc.)
PERFORMANCE STANDARD 3.3 : DETERMINE OUR DEPENDENCE ON NATURAL RESOURCES
3.3.1 List the types of natural resources that we use in everyday life 3.3.2 Explain the relationship of agriculture and our environment

CONTENT STANDARD 4.0 : PLANT AND SOIL SCIENCE

PERFORMANCE STANDARD 4.1 : DEMONSTRATE AN UNDERSTANDING OF PLANT SCIENCE

- 4.1.1 Label and describe the four major parts of a plant
- 4.1.2 Demonstrate asexual and sexual plant propagation
- 4.1.3 Analyze the process of photosynthesis and respiration
- 4.1.4 Analyze natural resources (water, soil nutrients, etc.) and their effect(s) on plant systems

PERFORMANCE STANDARD 4.2 : DEVELOP AN UNDERSTANDING OF SOIL SCIENCE

- 4.2.1 Understand the components of soil
- 4.2.2 Identify and describe the different layers of a soil profile
- 4.2.3 Describe the concept of soil texture and its relationship to human land use
- 4.2.4 Identify and explain the uses of soil amendments

PERFORMANCE STANDARD 4.3 : DISCERN THE RELATIONSHIP BETWEEN PLANT AND SOIL SCIENCES

- 4.3.1 Recognize the relationship between vegetation and soil types
- 4.3.2 Describe soil erosion and identify causes
- 4.3.3 Determine the relationship between plant insect pests and disease in soil
- 4.3.4 Describe the principles of grazing land management

CONTENT STANDARD 5.0 : ALTERNATIVE AGRICULTURE

PERFORMANCE STANDARD 5.1 : EXAMINE ALTERNATIVE AGRICULTURE METHODS

- 5.1.1 Identify the different soilless methods of growing plants and its importance to society
- 5.1.2 Explain Small Space Gardening and their everyday application (rooftop, vertical, square foot gardening, straw bale/ pallet, etc.)
- 5.1.3 Evaluate the advantages and disadvantages of alternative agriculture methods
- 5.1.4 Compare and contrast organic and conventional methods of growing

PERFORMANCE STANDARD 5.2 : DETERMINE ALTERNATIVE ENERGY SOURCES

- 5.2.1 Explain the importance of the agricultural revolution to the advancement of society
- 5.2.2 Compare and contrast agricultural derived biofuels, wind power, solar and geothermal sources of energy

PERFORMANCE STANDARD 5.3 : CONSIDER ADVANCEMENTS IN ALTERNATIVE AGRICULTURE

- 5.3.1 Identify and describe the benefits of technology in agriculture (GPS, cellphones, Apps, GIS, Google Earth, drones, etc.)
- 5.3.2 Explain how the use of autonomous farm technology (e.g., self-driving farm equipment or robotic milking machines) improves farm efficiency

CONTENT STANDARD 6.0 FOOD SCIENCE TECHNOLOGY
PERFORMANCE STANDARD 6.1 : IDENTIFY COMPONENTS OF FOOD SAFETY
6.1.1 Explain the importance of food safety and why it is a challenge
6.1.2 Identify risks if food safety practices are not followed
6.1.3 Identify who regulates food safety
6.1.4 Determine the cause(s) of five (5) foodborne illnesses and how to prevent future impacts
PERFORMANCE STANDARD 6.2 : DESCRIBE FOOD PROCESSING METHODS
6.2.1 Compare or contrast different food preparation methods (ready to cook, homemade, fast food, etc.)
6.2.2 Identify the importance of food preservation methods (freezing, canning, fresh, dehydrated, flash freeze, etc.)
6.2.3 Define palatability and explain why it is important to the food science industry
PERFORMANCE STANDARD 6.3 : FOOD PRODUCT DEVELOPMENT
6.3.1 Understand a food nutritional label
6.3.2 Create a food product
6.3.3 Conduct a blind taste test
6.3.4 Determine the need for a new food product and market it to a target audience

CONTENT STANDARD 7.0 : EXPLORE ANIMAL SCIENCE

PERFORMANCE STANDARD 7.1 : UNDERSTAND THE IMPORTANCE OF ANIMALS TO HUMANS

- 7.1.1 Identify major uses of domesticated animals
- 7.1.2 Identify services and products that are provided by animals
- 7.1.3 Determine the usefulness of animal by-products to humans
- 7.1.4 Determine the need for practicing safe animal handling with large and small animals

PERFORMANCE STANDARD 7.2 : EXPLORE THE ANIMAL SCIENCE INDUSTRY

- 7.2.1 Demonstrate proper use of terminology in the animal science industries (species ID, male vs female, young vs mature)
- 7.2.2 Identify different animal production types (companion, large, small, exotic, wildlife, etc.)

PERFORMANCE STANDARD 7.3 : EXPLAIN THE PROPER CARE AND SELECTION OF ANIMALS

- 7.3.1 Explain proper guidelines to care for animals
- 7.3.2 Identify selection criteria for animals according to their purpose/use
- 7.3.3 Discuss industry programs that help producers (for example: Beef Quality Assurance, Pork Quality Assurance)

CONTENT STANDARD 8.0 : EXPLORE MECHANICAL SYSTEMS
PERFORMANCE STANDARD 8.1 : EXPLORE PROPER SAFETY AND TOOL USAGE
8.1.1 Identify and describe proper Personal Protective Equipment (PPE)
8.1.2 Practice and review required safety protocols when working in the lab
8.1.3 Identify and properly use basic hand tools
8.1.4 Practice reading and interpreting a label
PERFORMANCE STANDARD 8.2 : EXPLORE STRUCTURAL AND MECHANICAL SYSTEMS
8.2.1 List different mechanical systems used in agriculture (irrigation, electrical, structural, etc.)
8.2.2 Plan and construct a functional model of a mechanical system

CONTENT STANDARD 9.0 : AGRICULTURAL BIOTECHNOLOGY

PERFORMANCE STANDARD 9.1 : EXAMINE THE USE OF BIOTECHNOLOGY IN EVERYDAY LIFE

- 9.1.1 Define and describe Biotechnology
- 9.1.2 Explore how agricultural biotechnology has improved your life
- 9.1.3 Discuss how agricultural biotechnology can make a positive difference for world populations
- 9.1.4 Describe the role of agencies that regulate biotechnology applications (e.g., USDA, FDA and EPA)
- 9.1.5 Define and describe Biotechnology and its relationship to agricultural trends (GEO's, GMO's, cloning, etc.)
- 9.1.6 What role does the practice of gene editing have in making our world safer (food security, finding cures for human and animal diseases, etc.)

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CROSSWALKS AND ALIGNMENTS

CROSSWALKS (ACADEMIC STANDARDS)

The crosswalk of the Agriculture & Natural Resources Standards shows links to the Nevada Academic Content Standards in English Language Arts. The crosswalk identifies the performance indicators in which the learning objectives in the middle school Agriculture & Natural Resources course 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.

ALIGNMENTS (MATHEMATICAL PRACTICES)

Several performance indicators support the Mathematical Practices. The following table illustrates the alignment of the Agriculture & Natural Resources Standards Performance Indicators and the Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the middle school Agriculture & Natural Resources course support academic learning.

ALIGNMENTS (SCIENCE AND ENGINEERING PRACTICES)

Several performance indicators support the Science and Engineering Practices. The following table illustrates the alignment of the Agriculture & Natural Resources Standards Performance Indicators and the Science and Engineering Practices. This alignment identifies the performance indicators in which the learning objectives in the middle school Agriculture & Natural Resources course support academic learning.

CROSSWALK OF AGRICULTURE & NATURAL RESOURCES STANDARDS AND THE NEVADA ACADEMIC CONTENT STANDARDS

CONTENT STANDARD 1.1: UNDERSTAND CAREERS AND THE NATURE OF WORK

Performance Indicators	Nevada Academic Content Standards
1.1.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
1.1.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
1.1.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics*. **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
1.1.7	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics.*
1.2.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
1.3.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics.
1.3.4	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and relationships between information and ideas clearly and efficiently.

CONTENT STANDARD 2.0: AGRICULTURE AND YOU

Performance Indicators	NEVADA ACADEMIC CONTENT STANDARDS
2.1.1, 2.1.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
2.1.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST. 6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
2.2.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.9 Draw evidence from informational texts to support analysis reflection, and research.
2.2.2, 2.2.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
2.3.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
2.3.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.

CONTENT STANDARD 3.0: NATURAL RESOURCES/ENVIRONMENTAL MANAGEMENT

Performance Indicators 3.1	NEVADA ACADEMIC CONTENT STANDARDS
3.1.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
3.1.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
3.1.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.
3.14	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.
3.1.5	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2b Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
3.2.1-3.2.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. WHST.6-8.2b Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. WHST.6-8.2c Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic. WHST.6-8.2e Establish and maintain a formal style and objective tone. WHST.6-8.2f Provide a concluding statement or section that follows from and supports the information or explanation presented.
3.3.1, 3.3.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

CONTENT STANDARD 4.0: PLANT AND SOIL SCIENCE

Performance Indicators	Nevada Academic Content Standards
4.1.1-4.1.4	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. RST.6-8.4 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 6–8 texts and topics.* RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
4.2.1-4.2.4	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
4.3.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
4.3.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
4.3.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.9 Draw evidence from informational texts to support analysis reflection, and research.
4.3.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

CONTENT STANDARD 5.0: ALTERNATIVE AGRICULTURE

Performance Indicators	Nevada Academic Content Standards
5.1.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
5.1.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
5.1.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
5.1.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
5.1.5	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
5.2.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.1 Write arguments focused on discipline-specific content. WHST.6-8.1a Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. WHST.6-8.1b Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. WHST.6-8.1c Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. WHST.6-8.1d Establish and maintain a formal style. WHST.6-8.1e Provide a concluding statement or section that follows from and supports the argument presented.
5.2.2-5.3.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
5.3.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.

CONTENT STANDARD 6.0: FOOD SCIENCE TECHNOLOGY

Performance Indicators	Nevada Academic Content Standards
6.1.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
6.1.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. WHST.6-8.2b Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
6.1.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic. WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
6.1.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
6.2.1-6.2.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
6.2.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
6.3.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
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6.3.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.9 Draw evidence from informational texts to support analysis reflection, and research.
6.3.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

CONTENT STANDARD 7.0: EXPLORE ANIMAL SCIENCE

Performance Indicators	Nevada Academic Content Standards
7.1.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics*. RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
7.1.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics*. RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
7.1.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
7.1.4	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.4 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 6–8 texts and topics.
7.2.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
7.2.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
7.3.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
7.3.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
7.3.3	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

CONTENT STANDARD 8.0: EXPLORE MECHANICAL SYSTEMS

Performance Indicators	Nevada Academic Content Standards
8.1.1-8.1.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.9 Draw evidence from informational texts to support analysis reflection, and research.
8.1.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
8.1.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
8.2.1	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic.
8.2.2	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. RST.6-8.4 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 6–8 texts and topics.*

CONTENT STANDARD 9.0: AGRICULTURAL BIOTECHNOLOGY

Performance Indicators	Nevada Academic Content Standards
9.1.1	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST. 6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
9.1.2	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
9.1.3	**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects** RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
9.1.4	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic. WHST.6-8.2f Provide a concluding statement or section that follows from and supports the information or explanation presented.
9.1.5	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.2a Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. WHST.6-8.2b Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. WHST.6-8.2c Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. WHST.6-8.2d Use precise language and domain-specific vocabulary to inform about or explain the topic. WHST.6-8.2e Establish and maintain a formal style and objective tone. WHST.6-8.2f Provide a concluding statement or section that follows from and supports the information or explanation presented.
9.1.6	**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects** WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

ALIGNMENT OF AGRICULTURE & NATURAL RESOURCES MIDDLE SCHOOL STANDARDS AND THE MATHEMATICAL PRACTICES

Mathematical Practices	Agriculture & Natural Resources Middle School Performance Indicators
1. Make sense of problems and persevere in solving them.	1.2.6 4.2.4 5.2.2; 5.3.1 9.1.6
2. Reason abstractly and quantitatively.	3.1.4 5.2.2 9.1.5
3. Construct viable arguments and critique the reasoning of others.	3.2.1 5.2.1 9.1.2, 9.1.6
4. Model with mathematics.	4.1.3; 4.3.2, 4.3.4 5.1.2; 5.3.2 8.2.2 9.1.3
5. Use appropriate tools strategically.	4.3.3 5.2.2
6. Attend to precision.	4.1.4 6.2.2 8.2.1
7. Look for and make use of structure.	3.2.3
8. Look for and express regularity in repeated reasoning.	4.2.3 9.1.6

ALIGNMENT OF AGRICULTURE & NATURAL RESOURCES STANDARDS AND THE SCIENCE AND ENGINEERING PRACTICES

Science and Engineering Practices	Agriculture & Natural Resources Middle School Performance Indicators
1. Asking questions (for science) and defining problems (for engineering).	3.2.3 4.3.2 6.1.2
2. Developing and using models.	3.1.1; 3.3.2 6.2.3 8.2.2 9.1.6
3. Planning and carrying out investigations.	3.1.4 5.2.2 6.1.1; 6.2.2 9.1.2, 9.1.3, 9.1.5
4. Analyzing and interpreting data.	4.3.1 7.3.2
5. Using mathematics and computational thinking.	4.1.3 5.1.2 9.1.3
6. Constructing explanations (for science) and designing solutions (for engineering).	3.2.2 5.1.3; 5.3.1 8.2.1
7. Engaging in argument from evidence.	5.1.4 9.1.6
8. Obtaining, evaluating, and communicating information.	4.3.3 5.1.4; 5.2.1; 5.3.2 6.1.4; 6.3.1 7.3.1, 7.3.3 9.1.4