Appendix A: AFNR Career Cluster Content Standards-Agronomy

Performance Measurement Levels	Event Activity Addressing Measurement	Related Academic Standards
ABS.01.02. Performance Indicator: Apply principles of entrepreneurship in businesses.		Social Studies: 7b & 7g
ABS.01.02.01.c. Demonstrate entrepreneurship, including idea generation, opportunity analysis and risk assessment.	Team activity	
ABS.02.01. Performance Indicator: Compose and analyze a business plan for an enterprise.		Language Arts: 3, 4, 5, 7 & 8; Social Studies: 7h
ABS.02.01.01.a. Recognize quality AFNR business plan components that have been developed using the SMART (specific, measurable, attainable, realistic and timely) format.	Team activity	
ABS.02.03. Performance Indicator: Apply appropriate management skills to organize a business.		Language Arts: 12; Social Studies: 7f
ABS.02.03.01.c. Implement management approaches to assure efficiency and profitability.	Team activity	
ABS.02.03.02.b. Prepare and deliver AFNR business presentations that include customers served, sources of inputs and how a business produces goods and services.	Team activity	
ABS.03.01. Performance Indicator: Prepare and maintain all files needed to accomplish effective record keeping.		Math: 5A & 6B; Language Arts: 8
ABS.03.01.01.b. Analyze records to improve efficiency and profitability of an AFNR business.	Team activity	
ABS.04.01. Performance Indicator: Use accounting fundamentals to accomplish dependable bookkeeping and fiscal management.		Math: 1C, 5A & 5C; Social Studies: 7h
ABS.04.01.01.c. Manage resources to minimize liabilities and maximize profit.	Team activity/ diagnostic clinic/ grain grading/soils	
ABS.04.01.02.b. Use accounting information to estimate the cost of goods sold and margins on the goods.	Team activity/ grain grading	
ABS.04.01.03.a. Explain the importance of return on investment for an agribusiness enterprise.	Team activity/ grain grading	
ABS.05.01. Performance Indicator: Maintain and interpret financial information (income statements, balance sheets, inventory, purchase orders, accounts receivable and cash-flow analyses) for businesses.		Math: 1C, 5A & 5C; Language Arts: 8
ABS.05.01.02.a. Name and explain the impact of external economic factors on an AFNR business.	Grain grading	
ABS.05.01.03.c. Conduct a breakeven analysis for an AFNR business.	Team activity	

ABS.07.01. Performance Indicator: Prepare a step-by-step production plan that identifies needed resources.		Language Arts: 4, 5 & 8
ABS.07.01.01.c. Adapt production processes based on changing product characteristics.	Team activity	
ABS.07.02. Performance Indicator: Develop a production and operational plan.		Language Arts: 4, 5, 6 & 12
ABS.07.02.01.b. Evaluate the components of a production and operational plan and then revise an existing plan.	Team activity	
ABS.07.03. Performance Indicator: Utilize appropriate techniques to determine the most likely strengths, weaknesses and inconsistencies in a business plan and relate these to risk management strategies.		Language Arts: 12
ABS.07.03.01.b. Describe approaches to use in revising a business plan for improved consistency and realism.	Team activity	
ABS.07.04. Performance Indicator: Manage risk and uncertainty.		Language Arts: 12
ABS.07.04.01.b. Describe alternative approaches to reducing risk, including the use of insurance for product liability, property, production or income loss and for personnel life and health.	Team activity	
AS.08.01. Performance Indicator: Reduce the effects of animal production on the environment.		Science: C4 & F4
AS.08.01.01.b. Outline methods of reducing the effects of animal agriculture on the environment.	Team activity/ grain grading	
BS.01.01. Performance Indicator: Distinguish major innovators, historical developments and potential applications of biotechnology in agriculture.		Science: E2, F6 & G3; Language Arts: 8; Social Studies: 2b, 8a, 8c & 8e
BS.01.01.02.a. Investigate current applications of biotechnology in agriculture.	All but soils	
ESS.01.01. Performance Indicator: Analyze and interpret samples.		Math: 1A, 1B, 4A & 5B; Science: A2
ESS.01.01.01.c. Analyze and interpret results of sample measurements.	Grain grading/ soils/diagnostic clinic	
ESS.01.01.02.a. Identify basic laboratory equipment and environmental monitoring instruments and explain their uses.	Machine ID	
ESS.03.02. Performance Indicator: Apply soil science principles to environmental service systems.		Science: B2 & D2; Social Studies: 3k
ESS.03.02.01.a. Explain the process of soil formation through weathering.	Soils	
ESS.03.02.03.c. Conduct tests of soil to determine its use for environmental service systems.	Soils/team activity	
ESS.03.02.04.b. Use a soil survey to determine the land capability classes for different parcels of land in an area.	Soils	

ESS.03.04. Performance Indicator: Apply best management techniques associated with the properties, classifications and functions of wetlands.		Science: C4 & F3; Social Studies: 3c
ESS.03.04.02.b. Identify the predominant species in a local wetland.	Team activity	
ESS.03.05. Performance Indicator: Apply chemistry principles to environmental service systems.		Science: B2, B3 & F4
ESS.03.05.01.b. Distinguish the characteristics of inorganic and organic compounds as they relate to environmental service systems.	Diagnostic/soils/ team activity/exam	
ESS.04.03. Performance Indicator: Apply the principles of public drinking water treatment operations to ensure safe water at a facility.		Science: F3 & F5
ESS.04.03.02.a. Define source water quality.	Team activity/ exam	
FPP.04.01. Performance Indicator: Utilize harvesting, selection and inspection techniques to obtain quality food products for processing.		Science: F1; Language Arts: 12
FPP.04.01.01.c. Assign quality and yield grades to food products according to industry standards.	Grain grading/ team activity/exam	
FPP.04.01.02.b. Perform quality-control inspections of raw food products for processing.	Crop evaluation	
FPP.04.02. Performance Indicator: Evaluate, grade and classify processed food products.		Science: F1; Language Arts: 8
FPP.04.02.02.c. Evaluate, grade and classify processed products from fruits and vegetables.	Diagnostic/grain grading	
FPP.04.02.03.c. Evaluate, grade and classify finished products derived from grains, legumes and oilseeds.	Grain grading/crop evaluation	
NRS.01.01. Performance Indicator: Apply knowledge of natural resource components to the management of natural resource systems.		Math: 5a; Science: C4 & F3; Social Studies: 3h & 3k
NRS.01.01.01.a. Identify natural resources.	Soils/plant ID/ team activity	
NRS.01.02. Performance Indicator: Classify natural resources.		Science: F3
NRS.01.02.02.b. Identify herbaceous plants.	Plant ID	
NRS.01.02.05.b. Identify rock, mineral and soil types.	Soils	
NRS.02.02. Performance Indicator: Demonstrate cartographic skills to aid in developing, implementing and evaluating natural resource management plans.		Math: 4B; Science: A3 & F2; Social Studies: 3b & 3c
NRS.02.02.01.b. Locate natural resources using a land survey and geographic coordinate system.	Soils	
NRS.02.04. Performance Indicator: Demonstrate natural resource enhancement techniques.		Science: F3; Social Studies: 3g & 3k
NRS.02.04.04.c. Evaluate a rangeland and develop a management plan for improvement.	Team activity	
NRS.02.04.05.a. Identify natural resource characteristics desirable for recreational purposes.	Team activity/ exam/plant ID	

NRS.04.03. Performance Indicator: Manage insect infestations of natural resources.		Science: C4 & F3
NRS.04.03.01.c. Describe techniques used to manage pests of natural resources.	Exam/team activity/grain grading	
PS.01.01. Performance Indicator: Classify agricultural plants according to taxonomy systems.		Science: C3
PS.01.01.01.c. Classify agricultural plants according to the hierarchical classification system, life cycles, plant use and as monocotyledons or dicotyledons.	Exam	
PS.01.01.02.b. Identify agriculturally important plants by common names.	Plant & seed ID	
PS.01.02. Performance Indicator: Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.		Science: B6, C3 & C5
PS.01.02.02.a. Identify the components, the types and the functions of plant roots.	Exam	
PS.01.02.03.b. Describe the processes of translocation.	Exam	
PS.01.02.04.c. Explain the relationships between leaf structure and functions and plant management practices.	Exam	
PS.01.02.05.b. Identify the different types of flowers and flower forms.	Exam	
PS.01.02.06.c. Apply the knowledge of seed and fruit structures to plant culture and use.	Team activity/ exam/plant & seed ID	
PS.01.03. Performance Indicator: Apply knowledge of plant physiology and energy conversion to plant systems.		Science: B6 & C5
PS.01.03.01.a. Explain the basic process of photosynthesis and its importance to life on Earth.	Exam	
PS.01.03.02.a. Explain cellular respiration and its importance to plant life.	Exam	
PS.01.03.03.c. Relate the principles of primary and secondary growth to plant systems.	Exam	
PS.01.03.04.a. Identify the five groups of naturally occurring plant hormones and synthetic plant growth regulators.	Exam/team activity	
PS.02.01. Performance Indicator: Determine the influence of environmental factors on plant growth.		Science: C6
PS.02.01.01.a. Describe the qualities of light that affect plant growth.	Exam/team activity	
PS.02.01.02.a. Describe the effects air, temperature and water have on plant metabolism and growth.	Exam/disease disorder	

.02.02. Performance Indicator: Prepare growing media for use in plant systems.		Science: B2	
	PS.02.02.01.b. Describe the physical characteristics of growing media and explain the influence they have on plant growth. PS	Exam/diagnostic clinic/soils	
	PS.02.02.02.c. Determine the hydraulic conductivity for soil and how the results influence irrigation practices.	Team activity/ exam	
PS.02.03. Performance Indicator: Develop and implement a fertilization plan for specific plants or crops.		Math: 4B; Science: A2	
	PS.02.03.01.c. Monitor plants for signs of nutrient deficiencies and prepare a scouting report.	Disease disorder/ diagnostic clinic	
	PS.02.03.02.c. Adjust the pH of growing media.	Exam/team activity/diagnostic clinic	
	PS.02.03.04.c. Use variable-rate technology to apply fertilizers to meet crop nutrient needs.	Team activity	
PS.03.01. Performance Indicator: Demonstrate plant propagation techniques.		Science: C2	
	PS.03.01.01.a. Explain pollination, cross-pollination and self-pollination of flowering plants.	Exam	
	PS.03.01.02.c. Conduct tests associated with seed germination rates, viability and vigor.	Seed analysis	
	PS.03.01.05.c. Evaluate the performance of genetically modified crops.	Seed analysis/team activity	
PS.03.02. Performance Indicator: Develop and implement a plant management plan for crop production.		Science: C5 & C6; Language Arts: 7	
	PS.03.02.01.c. Produce pest and disease-free propagation material.	Crop evaluation	
	PS.03.02.02.a. Explain the reasons for preparing growing media before planting.	Soils/team activity/ exam	
	PS.03.02.04.c. Prepare and implement a plant production schedule based on predicted environmental conditions.	Team activity	
	PS.03.02.05.c. Create and implement a plan to control and manage plant growth.	Team activity	
PS.03.03. Performance Indicator: Develop and implement a plan for integrated pest management.		Science: C4 & C6; Language Arts: 7	
	PS.03.03.01.b. Identify major local weeds, insect pests and infectious and noninfectious plant diseases.	Plant & insect ID/ disease disorder/ seed analysis/ diagnostic clinic	
	PS.03.03.02.c. Predict pest and disease problems based on environmental conditions and life cycles.	Insect ID/ diagnostic clinic/ exam	
	PS.03.03.03.b. Describe types of pesticide controls and formulations.	Exam/team activity/diagnostic clinic	
	PS.03.03.04.b. Explain procedures for the safe handling, use and storage of pesticides.	Exam	

PS.03.04. Performance Indicator: Apply principles and practices of sustainable agriculture to plant production.		Science: F3, F4 & F6
PS.03.04.01.b. Describe sustainable agriculture practices and compare the ecological effects of traditional agricultural practices with those of sustainable agriculture.	Team activity	
PS.03.05. Performance Indicator: Harvest, handle and store crops.		Science: F5
PS.03.05.01.a. Identify harvesting methods and harvesting equipment.	Machine ID/team activity	
PS.03.05.02.c. Implement plans to reduce crop loss.	All but soils	
PS.03.05.03.a. Identify storage methods for plants and plant products.	Diagnostic clinic/ team activity	
PS.03.05.04.b. Demonstrate techniques for grading, handling and packaging plants and plant products for distribution.	Grain grading	
PST.05.03. Performance Indicator: Use geospatial technologies in agricultural applications.		Science: A3, E2 & F6; Social Studies: 3c
PST.05.03.01.a. Identify geospatial technologies, including global positioning, geographical information and remote sensing.	Machinery ID/soil	
PST.05.03.02.c. Output and apply maps using GIS/GPS systems.	Soils/team activity/ equipment ID	
CS.01.01. Performance Indicator: Action: Exhibit the skills and competencies needed to achieve a desired result.		Social Studies: 4d & 4h
CS.01.01.03.c. Implement an effective project plan.	Team activity	
CS.01.01.04.b. Use appropriate and reliable resources to complete an action or project.	Team activity	
CS.01.01.05.b. Create a plan for performing a job that will minimize physical, financial and professional risks.	Team activity	
CS.01.01.06.a. Identify the strengths/talents of team members needed to achieve a desired task.	Team activity	
CS.01.02. Performance Indicator: Relationships: Build a constituency through listening, coaching, understanding and appreciating others.		Language Arts: 12; Social Studies: 4h
CS.01.02.02.c. Engage others in conversations to respond to an obstacle when completing a task.	Team activity	
CS.01.02.04.c. Evaluate the effectiveness of team members.	Team activity	
CS.01.03. Performance Indicator: Vision: Establish a clear image of what the future should look like.		Social Studies: 4a, 4d & 4h
CS.01.03.02.c. Create a plan of action to complete a task based on a conceptualized idea.	Team activity	
CS.01.04. Performance Indicator: Character: Conduct professional and personal activities based on virtues.		Social Studies: 4c & 4f
CS.01.04.04.c. Demonstrate respect for others.	Team activity	

CS.01.06. Performance Indicator: Continuous Improvement: Pursue learning and growth opportunities related to professional and personal aspirations.		Science: A4; Language Arts: 8; Social Studies: 4h
CS.01.06.04.c. Make recommendations to adopt new emerging technologies.	Team activity	
CS.01.06.05.c. Implement a plan to develop new knowledge and skills related to professional and personal aspirations.	Team activity	
CS.02.03. Performance Indicator: Professional Growth: Develop awareness and apply skills necessary for achieving career success.		Language Arts: 12; Social Studies: 4a
CS.02.03.03.b. Develop skills required for a specific career.	All activities	
CS.02.04. Performance Indicator: Mental Growth: Demonstrate the effective application of reasoning, thinking and coping skills.		Math: 6C; Science: A4; Language Arts: 4 & 8
CS.02.04.02.c. Implement effective problem-solving strategies.	Team activity/ exam/diagnostic clinic/grain grading	
CS.02.04.03.a. Discuss the skills and techniques needed to negotiate effectively.	Grain grading/ team activity	
CS.03.01. Performance Indicator: Communication: Demonstrate oral, written and verbal skills.		Language Arts: 4, 5 & 12
CS.03.01.01.a. Use basic technical and business writing skills.	Team activity	
CS.03.01.01.c. Demonstrate technical and business writing skills to communicate effectively with co-workers and supervisors.	Team activity	
CS.03.01.03.b. Deliver a business presentation for a peer group (e.g., class presentation).	Team activity	
CS.03.02. Performance Indicator: Decision Making–Analyze situations and execute an appropriate course of action.		Science: A1 & A5; Social Studies: 1c & 4h
CS.03.02.01.b. Utilize the process used to reach a conclusion for a decision.	Team activity/ reasons/diagnostic clinic	
CS.03.02.02.c. Use problem-solving skills.	All activities	
CS.03.03. Performance Indicator: Flexibility/Adaptability: Describe traits that enable one to be capable and willing to accept change.		Science: A1 and A5 Social Studies: 1c and 4h
CS.03.03.03.c. Respond to feedback to improve a situation, skill or performance.	Team activity questions	

CS.05.03. Performance Indicator: Research geographical data related to AFNR Systems.		Math: 5C Language Arts: 4 Social Studies: 3c and 3e
	CS.05.03.01.a. Present resource data in graphic format.	Diagnostic clinic/ team activity/soil test report	
	CS.05.03.02.b. Explore how AFNR systems differ across geographical areas.	Team activity/all ID's	
CS.06.02. Performance Indicator: Develop a plan to maintain and improve health, safety and environmental compliance and performance.		Science: F1, F4 and F5 Social Studies: 9d
	CS.06.02.01.b. Develop plans to improve health, safety and environmental performance.	Exam/team activity/diagnostic clinic	
CS.08.01. Performance Indicator: Evaluate and select the appropriate tool to perform a given task.		N/A
	CS.08.01.01.a. Identify standard tools, equipment and safety procedures related to a specific task.	Machine ID/team activity	
CS.09.02. Performance Indicator: Apply skills with computer software to accomplish a variety of business activities.		Math: 6C Science: A3
	CS.09.02.01.b. Use basic software systems such as spreadsheet and word processing to complete a task.	Team activity	
CS.09.03. Performance Indicator: Use technology to demonstrate the ability to network and interface with technology.		Science: A3 and E2
	CS.09.03.01.a. Use the technological systems to acquire information related to AFNR.	Soils/team activity	
CS.10.01. Performance Indicator: Examine new technologies to project their impact in the global market of AFNR.		Science: F6
	CS.10.01.01.a. Apply the use of various scientific measurement and conversions to AFNR systems.	Team activity/ exam/diagnostic clinic/grain grading	
CS.11.01. Performance Indicator: Recognize the questions and theory needed to guide scientific investigations.		Math: 6C Science: A1 and A2
	CS.11.01.01.c. Demonstrate procedures and a conceptual understanding of scientific investigation.	Diagnostic clinic/ exam	

Appendix B: Related Academic Standards-Agronomy
National academic standards for mathematics, science, English language arts and social studies
related to this event are reported below. The statements are based on information in reports of the respective associations/organizations in the academic areas. Some adjustment of numbering was done to facilitate the process of alignment with the standards that have been developed in the pathways of the Agriculture, Food and Natural Resources (AFNR) Career Cluster.

The approach was to determine the presence of alignment between the content standards, expectations or thematic strands of the four academic areas and the performance indicators of the AFNR Standards. Supporting statements have been included to clarify content of the respective content standards, expectations or thematic strands. The statements were initially developed independently by the respective organizations and, therefore, are not parallel in wording and presentation. Occasionally minor editing was done to adjust the background or stem of a statement but not the statement itself.

Mathematics
1. Standard and Expectations: Number and Operations
1A. Understand numbers, ways of representing numbers, relationships among numbers and number systems.
1B. Understand meanings of operations and how they relate to one another.
1C. Compute fluently and make reasonable estimates.
6. Standard and Expectations: Problem Solving
6B. Solve problems that arise in mathematics in other contexts.
6C. Apply and adapt a variety of appropriate strategies to solve problems.
4. Standard and Expectations: Measurement
4A. Understand measurable attributes of objects and the units, systems and processes of measurement.
4B. Apply appropriate techniques, tools and formulas to determine measurements.
5. Standard and Expectations: Data Analysis and Probability
5A. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.
5B. Select and use appropriate statistical methods to analyze data.
5C. Develop and evaluate inferences and predictions that are based on data.

Science
A. Content Standard: Science as an Inquiry
A1. Identify questions and concepts that guide scientific investigation. A2. Design and conduct scientific investigations.
A3. Use technology and mathematics to improve investigations and communications. A4. Formulate and revise scientific explanations and models using logic and evidence. A5. Recognize and analyze alternative explanations and models.
B. Content Standard: Physical Science

2. Structure and properties of matter. B3. Chemical reactions.
B4. Motions and forces.
B6. Interactions of energy and matter.
C. Content Standard: Life Science
C3. Biological evolution.
C2. Molecular basis of heredity.
C4. Interdependence of organisms.
C5. Matter, energy and organization in living systems.
C6. Behavior of organisms.
D. Content Standard: Earth and Space Science
D2. Geochemical cycles.
E. Content Standard: Science and Technology
E2. Understanding about science and technology.
F. Content Standard: Science in Personal and Social Perspectives
F1. Personal and community health.
F2. Population
growth. F3.
Natural
resources.
F4. Environmental quality.
F5. Natural and human-induced hazards.
F6. Science and technology in local, national and global
challenges. G. Content Standard: History and Nature of
Science
G3. Historical perspectives.

English Language Arts
3. Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate
texts. They draw on their prior experience, their interactions with other readers
and writers, their knowledge of word meaning and of other texts, their word
identification strategies and their understanding of textual features (e.g., sound-
letter correspondence, sentence structure, context, graphics).

4. Students adjust their use of spoken, written and visual language (e.g.,
conventions, style, vocabulary) to communicate effectively with a variety of
audiences and for different purposes.

5. Students employ a wide range of strategies as they write and use different
writing process elements appropriately to communicate with different
audiences for a variety of purposes.

6. Students apply knowledge of language structure, language conventions (e.g.,
spelling and punctuation), media techniques, figurative language and genre to
create, critique and discuss print and non-print texts.

7. Students conduct research on issues and interests by generating ideas and
questions, and by posing problems. They gather, evaluate and synthesize data

from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

12. Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Social Studies
1. Thematic Strand: Culture
      1c. apply an understanding of culture and an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values and behavior patterns;
2. Thematic Strand: Time, Continuity and Change
2b. apply key concepts such as time, chronology, causality, change, conflict and complexity to explain, analyze and show connections among patterns of historical change and continuity;
3. Thematic Strand: People, Places and Environments
3b. create, interpret, use and synthesize information from various representations of the earth, such as maps, globes and photographs;
3c. use appropriate resources, data sources and geographic tools such as aerial photo- graphs, satellite images, geographic information systems (GIS), map projects and cartography to generate, manipulate and interpret information such as atlases,
data bases, grid systems, charts, graphs and maps.
3e. describe, differentiate and explain the relationships among various regional and global patterns of geographic phenomena such as land forms, soils, climate, vegetation, natural resources and population;
3f. use knowledge of physical system changes such as seasons, climate and weather and the water cycle to explain geographic phenomena;
3h. examine, interpret and analyze physical and cultural patterns and their interactions, such as land use, settlement patterns, cultural transmission of customs and ideas, and ecosystem changes;
3k. propose, compare and evaluate alternative policies for the use of land and other resources in communities, regions, nations and the world.
4. Thematic Strand: Individual Development and Identity
4a. articulate personal connections to time, place and social/cultural systems;
4c. describe the ways family, religion, gender, ethnicity, nationality, socioeconomic status and other group and cultural influences contribute to the development of a sense of self;
4d. apply concepts, methods and theories about the study of human growth and development, such as physical endowment, learning, motivation, behavior, perception and personality;
4f. analyze the role of perceptions, attitudes, values and beliefs in the development of personal identity;

4h. work independently and cooperatively within groups and institutions to accomplish goals;

6. Thematic Strand: Power, Authority and Governance

6c. analyze and explain ideas and mechanisms to meet needs and wants of citizens, regulate territory, manage conflict, establish order and security and balance competing conceptions of a just society;

7. Thematic Strand: Production, Distribution and Consumption

7a. explain how the scarcity of productive resources (human, capital, technological and natural) requires the development of economic systems to make decisions about how goods and services are to be produced and distributed;

7b. analyze the role that supply and demand, prices, incentives and profits play in deter- mining what is produced and distributed in a competitive market system;

7f. compare how values and beliefs influence economic decisions in different societies;

7g. compare basic economic systems according to how rules and procedures deal with demand, supply, prices, the role of government, banks, labor and labor unions, savings and investments and capital;

7h. apply economic concepts and reasoning when evaluating historical and contemporary social developments and issues;

8. Thematic Strand: Science, Technology and Society

8a. identify and describe both current and historical examples of the interaction and interdependence of science, technology and society in a variety of cultural settings;

8c. analyze how science and technology influence the core values, beliefs and attitudes of society, and how the core values, beliefs and attitudes of society shape scientific and technological change;

8e. recognize and interpret varied perspectives about human societies and the physical world using scientific knowledge, ethical standards and technologies from diverse world cultures;

9. Thematic Strand: Global Connections

9d. analyze the causes, consequences and possible solutions to persistent, contemporary, and emerging global issues, such as health, security, resource allocation, economic development and environmental quality;