

Exploration of Agriscience, Technology and Environmental Sciences

8100210

Outcome # 01.0 APPLY KNOWLEDGE AND SKILLS IN THE AREA OF AGRICULTURAL RESEARCH AND RELATED PROFESSIONS--THE STUDENT WILL BE ABLE TO:

Performance Task# 01.01 Identify agricultural research and methods of experimentation.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.1	H	Determines the main idea or essential message in a text and identifies relevant details and facts and patterns of organization.	e05 Identify, collect and/or select pertinent information while reading.
			e15 Discriminate important ideas from unimportant ideas while reading.
			e50 Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
LA.A 2.3.5	H	Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H	Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.8	H	Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 01.02 Conduct a scientific experiment to solve an agricultural problem or answer an agricultural question.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.5	H	Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H	Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H	Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.8	H	Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills	
MA.A 3.3.1	H	Understands and explains the effects of addition, subtraction, multiplication and division on whole numbers, fractions, including mixed numbers, and decimals, including the inverse relationships of positive and negative numbers.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Data Analysis and Probability		Essential Work Skills	
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MA.E 2.3.1	H	Compares experimental results with mathematical expectations of probabilities.	m20	Understand the characteristic differences between theoretical and empirical probability (e.g., the theoretic probability of rolling a six and a die is 1/6 ; empirical probability is derived from repeated experimentation or accumulated statistics).
			m25	Determine the probability of single and compound events using the basic premise that the probability of an event is equal to the number of ways it can occur divide by the total number of outcomes.
MA.E 3.3.1	H	Formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts.	m05	Understand the best procedures for statistical data collection, organization, and display including making estimates and predictions and drawing inferences.
			m15	Understand the characteristics of measures of central tendency (i.e., mean, median, and mode).
			m36	Understand the characteristics of measures of dispersion (i.e., range, mean deviation, variance, and standard deviation).
SSS Strand: The Nature of Science			Essential Work Skills	
SC.H 1.3.1	H	Knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 1.3.2	M	Knows that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 1.3.3	M	Knows that science disciplines differ from one another in topic, techniques and outcomes, but that they share a common purpose, philosophy, and enterprise.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 1.3.4	H	Knows that accurate record keeping, openness, and replication are essential to maintaining an investigator's credibility with other scientists and society	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 1.3.5	H	Knows that a change in one or more variables may alter the outcome of an investigation.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 1.3.6	L	Recognizes the scientific contributions that are made by individuals of diverse backgrounds, interests, talents, and motivations.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 1.3.7	H	Knows that when similar investigations give different results, the scientific challenge is to verify whether the differences are significant by further study	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 3.3.1	M	Knows that science ethics demand that scientists must not knowingly subject coworkers, students, the neighborhood, or the community to health or property risks.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 3.3.2	M	Knows that special care must be taken in using animals in scientific research	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures

SC.H 3.3.3	M	Knows that in research involving human subjects, the ethics of science require that potential subjects be fully informed about the risks and benefit associated with the research and of their right to refuse to participate.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 3.3.4	M	Knows that technological design should require taking into account constraints such as natural laws, the properties of the materials used, and economic, political, social, ethical, and aesthetic values.	s115	(Not Ranked) Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems.
SC.H 3.3.5	L	Understands that contributions to the advancement of science, mathematics and technology have been made by different kinds of people, in different cultures, at different times, and are an intrinsic part of the development of human culture.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.6	M	Knows that no matter who does science and mathematics or invents things, or when or where they do it, the knowledge and technology that result can eventually become available to everyone.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

SC.H 3.3.7	M	Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.		No Essential Work Skill
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Outcome # 02.0 APPLY KNOWLEDGE AND SKILLS IN BIOTECHNOLOGY

Performance Task# 02.01 Define biotechnology.

SSS Strand: Reading			Essential Work Skills	
LA.A 1.3.1	L	Uses background knowledge of the subject and text structure knowledge to make complex predictions of content, purpose, and organization of the reading selection.	e52	Preview textbooks for informational text to anticipate content.
			e80	Understand ways an author uses language and text characteristics to aid comprehension.
LA.A 1.3.2	H	Uses a variety of strategies to analyze words and text, draw conclusions, use context and word structure clues, and recognize organizational patterns.	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
			e53	Apply personal or objective criteria for evaluating informational, persuasive and literary materials.
SSS Strand: Processes that Shape the Earth			Essential Work Skills	
SC.D 1.3.4	H	Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SSS Strand: Processes of Life			Essential Work Skills	
SC.F 1.3.1	H	Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.	s15	Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).
SC.F 1.3.7	M	Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.		No Essential Work Skill

Performance Task# 02.02 Discuss current and future uses of genetic engineering.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
L.A.C 1.3.1	L Listens and uses information gained for a variety of purposes, such as gaining information from interviews, following directions, and pursuing a personal interest.	e25	Listen, comprehend and summarize essential information from a variety of sources such as speeches, plays, commercials on radio and television, and political debates.
L.A.C 2.3.1	L Determines main concept, supporting details, stereotypes, bias, and persuasion techniques in a nonprint message.	e66	Demonstrate knowledge of persuasive techniques used in visual advertisements.
L.A.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Processes of Life		Essential Work Skills	
SC.F 1.3.2	M Knows that the structural basis of most organisms is the cell and most organisms are single cells, while some, including humans, are multicellular	s09	Identify the cell as a common unit between living things understand cell structure and the functions they perform
SC.F 2.3.1	M Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2	H Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12	Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).

SSS Strand: The Nature of Science		Essential Work Skills	
SC.H 1.3.1	H Knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 1.3.2	M Knows that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.4	M Knows that technological design should require taking into account constraints such as natural laws, the properties of the materials used, and economic, political, social, ethical, and aesthetic values.	s115	(Not Ranked) Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems.

Performance Task# 02.03 Identify issues associated with biotechnology.

SSS Strand: Reading		Essential Work Skills	
L.A.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Writing		Essential Work Skills	

LA.B 2.3.4 L	Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
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SSS Strand: The Nature of Science	Essential Work Skills
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SC.H 1.3.1 H	Knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
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SC.H 2.3.1 M	Recognizes that patterns exist within and across systems.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
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Outcome # 03.0 APPLY KNOWLEDGE AND SKILLS IN PLANT SCIENCES--THE STUDENT WILL BE ABLE TO:

Performance Task# 03.01 Produce an agricultural crop.

SSS Strand: Processes that Shape the Earth	Essential Work Skills
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SC.D 1.3.4 H	Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
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SSS Strand: Processes of Life	Essential Work Skills
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SC.F 1.3.1 H	Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.	s15	Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).
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SC.F 1.3.7 M	Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.		No Essential Work Skill
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SC.F 2.3.1 M	Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.

SC.F 2.3.2 H	Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12	Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
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Performance Task# 03.02 Discuss the technology involved in the development of improved crops.

SSS Strand: Reading	Essential Work Skills
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LA.A 2.3.6 H	Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.4 L	Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills	
MA.A 3.3.2 H	Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
SSS Strand: Processes of Life		Essential Work Skills	
SC.F 1.3.1 H	Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.	s15	Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).
SC.F 1.3.7 M	Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.		No Essential Work Skill
SC.F 2.3.1 M	Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2 H	Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12	Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
Performance Task# 03.03 Identify agribusinesses that provide supplies and services to plant science industries in the local area.			
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 3.3.1 L	Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92	Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.3 L	Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.
SSS Strand: Measurement		Essential Work Skills	
MA.B 3.3.1 H	Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
SSS Strand: The Nature of Science		Essential Work Skills	

SC.H 3.3.4	M	Knows that technological design should require taking into account constraints such as natural laws, the properties of the materials used, and economic, political, social, ethical, and aesthetic values.	s115	(Not Ranked) Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems.
SC.H 3.3.5	L	Understands that contributions to the advancement of science, mathematics and technology have been made by different kinds of people, in different cultures, at different times, and are an intrinsic part of the development of human culture.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.6	M	Knows that no matter who does science and mathematics or invents things, or when or where they do it, the knowledge and technology that result can eventually become available to everyone.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.7	M	Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.		No Essential Work Skill

Performance Task# 03.04 Identify the recommended uses and safety precautions from a pesticide label.

SSS Strand: Reading		Essential Work Skills		
LA.A 2.3.1	H	Determines the main idea or essential message in a text and identifies relevant details and facts and patterns of organization.	e05	Identify, collect and/or select pertinent information while reading.
			e15	Discriminate important ideas from unimportant ideas while reading.
			e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.

SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills		
MA.A 3.3.2	H	Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Measurement		Essential Work Skills		
MA.B 1.3.2	H	Uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.		No Essential Work Skill

Performance Task# 03.05 Complete or construct an agriscience laboratory project that demonstrates use of agricultural knowledge and/or skills.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills		
LA.C 3.3.3	L	Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Measurement		Essential Work Skills		
MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13	Compute the perimeter and area of two-dimensional figures.

		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.2	H		Uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.
MA.B 1.3.3	H		Understands and describes how the change of a figure in such dimensions : length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)

SSS Strand: The Nature of Science		Essential Work Skills	
SC.H 1.3.6	L	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Performance Task# 03.06 Compare landscaping methods.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.8	H	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Measurement		Essential Work Skills	
MA.B 1.3.1	H	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.2	H		Uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.
MA.B 1.3.4	H		Constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.

SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills	
SC.G 2.3.3	M	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H	s10	Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Performance Task# 03.07 Develop a landscape design.		
SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills
MA.A 3.3.2	H	Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.
		m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
MA.A 3.3.3	H	Adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.
		m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
SSS Strand: Measurement		Essential Work Skills
MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.
		m13 Compute the perimeter and area of two-dimensional figures.
		m17 Compute the volume of three-dimensional figures (solids).
		m30 Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.4	H	Constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.
		No Essential Work Skill
MA.B 2.3.2	H	Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.
		m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
Performance Task# 03.08 Develop a care and maintenance program for horticultural, forestry, and/or agronomic crops.		
SSS Strand: Writing		Essential Work Skills
LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.
		e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
SSS Strand: Measurement		Essential Work Skills
MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.
		m13 Compute the perimeter and area of two-dimensional figures.
		m17 Compute the volume of three-dimensional figures (solids).
		m30 Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.4	H	Constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.
		No Essential Work Skill
SSS Strand: Processes of Life		Essential Work Skills

SC.F 2.3.1	M	Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
			s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2	H	Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12	Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
SC.F 2.3.3	M	Knows that generally organisms in a population live long enough to reproduce because they have survival characteristics.	s44	Examine evolution as it relates to theories concerning the origin of life and natural selection.

SSS Strand: How Living Things Interact with Their Environment			Essential Work Skills	
SC.G 1.3.2	M	Knows that biological adaptations include changes in structures, behaviors or physiology that enhance reproductive success in a particular environment	s09	Identify the cell as a common unit between living things understand cell structure and the functions they perform
SC.G 1.3.3	M	Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.	s59	Know the classification system into which organisms are separated and grouped based on common characteristics. The classification groups include (from largest to smallest): kingdom, phylum, class, genus, and species.
SC.G 1.3.4	H	Knows that the interactions of organisms with each other and with the nonliving parts of their environments result in the flow of energy and the cycling of matter throughout the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 1.3.5	H	Knows that life is maintained by a continuous input of energy from the sun and by the recycling of the atoms that make up the molecules of living organisms.	s42	Understand the chemical reactions involved in cell functions (e.g., food molecules taken into cells are broken down to provide the chemical constituents needed to synthesize other molecules).
SC.G 2.3.1	M	Knows that some resources are renewable and others are nonrenewable.	s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
SC.G 2.3.2	M	Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.3	M	Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Performance Task# 03.09 Identify pests, pathogens, parasites, and predators of horticultural, forestry, and/or agronomic crops.

SSS Strand: Writing			Essential Work Skills	
LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
			e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.

SSS Strand: How Living Things Interact with Their Environment			Essential Work Skills	
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SC.G 1.3.1	H	Knows that viruses depend on other living things.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 1.3.2	M	Knows that biological adaptations include changes in structures, behaviors or physiology that enhance reproductive success in a particular environment.	s09	Identify the cell as a common unit between living things understand cell structure and the functions they perform
SC.G 1.3.3	M	Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.	s59	Know the classification system into which organisms are separated and grouped based on common characteristics. The classification groups include (from largest to smallest): kingdom, phylum, class, genus, and species.
SC.G 2.3.2	M	Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Performance Task# 03.10 Describe the major components of soil.

SSS Strand: Writing		Essential Work Skills		
LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
			e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.

SSS Strand: The Nature of Matter		Essential Work Skills		
SC.A 1.3.1	H	Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

SSS Strand: Processes that Shape the Earth		Essential Work Skills		
SC.D 1.3.1	M	Knows that mechanical and chemical activities shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.	s98	Know the characteristics of the erosional - depositional system by differentiating between an erosional process and a depositional process, locating the interface between erosion and deposition, and obtaining dynamic equilibrium between the two processes.
SC.D 1.3.2	H	Knows that over the whole Earth, organisms are growing, dying, and decaying as new organisms are produced by the old ones.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.D 1.3.4	H	Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Performance Task# 03.11 Explain methods of soil conservation.

SSS Strand: Reading		Essential Work Skills		
LA.A 2.3.7	H	Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

LA.A 2.3.8 H	Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Processes that Shape the Earth		Essential Work Skills	
SC.D 1.3.1 M	Knows that mechanical and chemical activities shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.	s98	Know the characteristics of the erosional - depositional system by differentiating between an erosional process and a depositional process, locating the interface between erosion and deposition, and obtaining dynamic equilibrium between the two processes.
SC.D 1.3.2 H	Knows that over the whole Earth, organisms are growing, dying, and decaying as new organisms are produced by the old ones.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.D 1.3.4 H	Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
Performance Task# 03.12 Identify the major forest regions of the United States and Florida.			
SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.6 H	Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: The Nature of Matter		Essential Work Skills	
SC.A 1.3.3 M	Knows that temperature measures the average energy of motion of the particles that make up the substance.	s94	Understand the concept of internal energy (the total potential and kinetic energies associated with the motion and relative position of the molecules of an object) and heat (the energy transfer from a warm body to a cold body).
Performance Task# 03.13 Describe the importance of forests and forest products.			
SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.6 H	Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills	
LA.B 1.3.2 H	Drafts and revises writing that: is focused, purposeful, and reflects insight into the writing situation; conveys a sense of completeness and wholeness with adherence to the main idea; has an organizational pattern that provide: for a logical progression of ideas; has support that is substantial, specific, relevant, concrete and/or illustrative; demonstrates a commitment to and an involvement with the subject; has clarity in presentation of ideas; uses creative writing strategies appropriate to the purpose of the paper; demonstrates a command of language (word choice) with freshness of expression; has varied sentence structure and sentences that are complete except when fragments are used purposefully; and has few, if any, convention errors in mechanics, usage, and punctuation.	e12	Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
		e14	Use editing and revising skills to improve effectiveness and accuracy of drafts.

SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills	
SC.G 1.3.4	H Knows that the interactions of organisms with each other and with the nonliving parts of their environments result in the flow of energy and the cycling of matter throughout the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.1	M Knows that some resources are renewable and others are nonrenewable.	s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
Performance Task# 03.14 Describe how trees grow and reproduce.			

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Processes of Life		Essential Work Skills	
SC.F 2.3.1	M Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2	H Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12	Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
SC.F 2.3.3	M Knows that generally organisms in a population live long enough to reproduce because they have survival characteristics.	s44	Examine evolution as it relates to theories concerning the origin of life and natural selection.

Performance Task# 03.15 Use tools and techniques common to the forest industry.			
SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.4	L Uses strategies to clarify meaning, such as rereading, note taking, summarizing, outlining, and writing a grade level-appropriate report.	e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills	
MA.A 3.3.2	H Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

MA.A 3.3.3 H	Adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
SSS Strand: Measurement		Essential Work Skills	
MA.B 1.3.1 H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.2 H	Uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.		No Essential Work Skill
MA.B 1.3.3 H	Understands and describes how the change of a figure in such dimensions : length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 2.3.2 H	Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.	m33	Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
Outcome # 04.0 APPLY KNOWLEDGE AND SKILLS IN ANIMAL SCIENCES--THE STUDENT WILL BE ABLE TO:			
Performance Task# 04.01 Describe the differences between animal welfare and animal rights.			
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 1.3.3 L	Acknowledges the feelings and messages sent in a conversation.		No Essential Work Skill
SSS Strand: Language		Essential Work Skills	
LA.D 2.3.3 L	Distinguishes between emotional and logical argument.	e70	Analyze and evaluate a speaker's statements of opinion, personal preference and values.
		e95	Analyze and evaluate a speaker's persuasive techniques.
SSS Strand: The Nature of Science		Essential Work Skills	
SC.H 3.3.2 M	Knows that special care must be taken in using animals in scientific research	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures

Performance Task# 04.02 Raise and care for an agricultural animal.		
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.
SSS Strand: Measurement		Essential Work Skills
MA.B 3.3.1	H Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	m13 Compute the perimeter and area of two-dimensional figures.
		m17 Compute the volume of three-dimensional figures (solids).
MA.B 4.3.1	L Selects appropriate units of measurement and determines and applies significant digits in a real-world context. (Significant digits should relate to both instrument precision and to the last precise unit of measurement.)	m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
MA.B 4.3.2	L Selects and uses appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.	m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
SSS Strand: Processes that Shape the Earth		Essential Work Skills
SC.D 1.3.4	H Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SSS Strand: Processes of Life		Essential Work Skills
SC.F 1.3.1	H Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.	s15 Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).
SC.F 1.3.7	M Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.	No Essential Work Skill
SC.F 2.3.1	M Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14 Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63 Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2	H Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12 Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
Performance Task# 04.03 Discuss the technology involved in the development of improved animal products.		

SSS Strand: Reading		Essential Work Skills
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills
LA.B 2.3.4	L Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Processes that Shape the Earth		Essential Work Skills
SC.D 1.3.4	H Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SSS Strand: Processes of Life		Essential Work Skills
SC.F 1.3.1	H Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.	s15 Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).
SC.F 1.3.7	M Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.	No Essential Work Skill
SC.F 2.3.1	M Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.	s14 Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.
		s63 Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.
SC.F 2.3.2	H Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.	s12 Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).
Performance Task# 04.04 Identify agribusinesses that provide supplies and services to animal science industries in the local area.		
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills
LA.C 3.3.1	L Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92 Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.
SSS Strand: The Nature of Science		Essential Work Skills
SC.H 3.3.4	M Knows that technological design should require taking into account constraints such as natural laws, the properties of the materials used, and economic, political, social, ethical, and aesthetic values.	s115 (Not Ranked) Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems.

SC.H 3.3.5	L	Understands that contributions to the advancement of science, mathematics and technology have been made by different kinds of people, in different cultures, at different times, and are an intrinsic part of the development of human culture.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.6	M	Knows that no matter who does science and mathematics or invents things, or when or where they do it, the knowledge and technology that result can eventually become available to everyone.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 3.3.7	M	Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.		No Essential Work Skill

Outcome # 05.0 DEMONSTRATE KNOWLEDGE AND SKILLS IN FOOD SCIENCE--THE STUDENT WILL BE ABLE TO:

Performance Task# 05.01 Demonstrate the proper handling and storage of food products.

SSS Strand: Reading		Essential Work Skills		
L.A.A 1.3.3	L	Demonstrates consistent and effective use of interpersonal and academic vocabularies in reading, writing, listening, and speaking.		No Essential Work Skill

SSS Strand: The Nature of Matter		Essential Work Skills		
SC.A 1.3.1	H	Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

SC.A 2.3.3	H	Knows that radiation, light, and heat are forms of energy used to cook food treat diseases, and provide energy.	s55	Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).
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Performance Task# 05.02 Demonstrate at least one method of food preservation. LAA 1.3.3; SCA 1.3.1, 1.3.5, 2.3.3

SSS Strand: Writing		Essential Work Skills		
L.A.B 1.3.3	L	Produces final documents that have been edited for: correct spelling; correct punctuation, including commas, colons, and semicolons; correct capitalization; effective sentence structure; correct common usage, including subject/verb agreement, common noun/pronoun agreement, common possessive forms, and with a variety of sentence structure, including parallel structure; and correct formatting.	e14	Use editing and revising skills to improve effectiveness and accuracy of drafts.

SSS Strand: The Nature of Matter		Essential Work Skills		
SC.A 1.3.1	H	Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.
SC.A 1.3.5	M	Knows the difference between a physical change in a substance (i.e., alter the shape, form, volume, or density) and a chemical change (i.e., producing new substances with different characteristics).	s57	Understand physical/chemical change (e.g., change of phase between gases, liquids, and solids).
SC.A 2.3.3	H	Knows that radiation, light, and heat are forms of energy used to cook food treat diseases, and provide energy.	s55	Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).

Performance Task# 05.03 Conduct a food taste test. HEA 1.3.4; SCA 1.3.1

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: The Nature of Matter		Essential Work Skills	
SC.A 1.3.1	H Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

Performance Task# 05.04 Produce and market a food product.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 05.05 Read, interpret, and develop a food label.

SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.2	H Uses a variety of strategies to analyze words and text, draw conclusions, use context and word structure clues, and recognize organizational patterns.	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e53	Apply personal or objective criteria for evaluating informational, persuasive and literary materials.
LA.A 2.3.4	L Uses a variety of reading materials to develop personal preferences in reading.		No Essential Work Skill

Outcome # 06.0 APPLY KNOWLEDGE AND SKILLS IN AGRICULTURAL PROCESSING AND MARKETING--THE STUDENT WILL BE ABLE TO:

Performance Task# 06.01 Identify processing and packaging techniques used in agriculture.			
SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.3	L	Demonstrates consistent and effective use of interpersonal and academic vocabularies in reading, writing, listening, and speaking.	No Essential Work Skill
SSS Strand: The Nature of Matter		Essential Work Skills	
SC.A 1.3.1	H	Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23 Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.
SC.A 1.3.5	M	Knows the difference between a physical change in a substance (i.e., alter the shape, form, volume, or density) and a chemical change (i.e., producing new substances with different characteristics).	s57 Understand physical/chemical change (e.g., change of phase between gases, liquids, and solids).
SC.A 2.3.3	H	Knows that radiation, light, and heat are forms of energy used to cook food, treat diseases, and provide energy.	s55 Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).
Performance Task# 06.02 Discuss the difference in marketing strategies between perishable and nonperishable commodities.			
SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report. e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
Performance Task# 06.03 Prepare, process, and develop a merchandising plan for an agricultural product.			
SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.5	H	Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.8	H	Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills	
LA.B 1.3.1	L	Organizes information before writing according to the type and purpose of writing.	e12 Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
LA.B 1.3.2	H	Drafts and revises writing that: is focused, purposeful, and reflects insight into the writing situation; conveys a sense of completeness and wholeness with adherence to the main idea; has an organizational pattern that provide: for a logical progression of ideas; has support that is substantial, specific, relevant, concrete and/or illustrative; demonstrates a commitment to and an involvement with the subject; has clarity in presentation of ideas; uses creative writing strategies appropriate to the purpose of the paper; demonstrates a command of language (word choice) with freshness of expression; has varied sentence structure and sentences that are complete except when fragments are used purposefully; and has few, if any, convention errors in mechanics, usage, and punctuation.	e12 Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.

		e14	Use editing and revising skills to improve effectiveness and accuracy of drafts.
LA.B 1.3.3	L		Produces final documents that have been edited for: correct spelling; correct punctuation, including commas, colons, and semicolons; correct capitalization; effective sentence structure; correct common usage, including subject/verb agreement, common noun/pronoun agreement, common possessive forms, and with a variety of sentence structure, including parallel structure; and correct formatting.
LA.B 2.3.3	L	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e62	Understand the needs of a specific audience and write and speak in ways that address these needs.

SSS Strand: Number Sense, Concepts, and Operations	Essential Work Skills
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MA.A 2.3.2	L	Understands the structure of number systems other than the decimal number system.	No Essential Work Skill
MA.A 3.3.1	H	Understands and explains the effects of addition, subtraction, multiplication and division on whole numbers, fractions, including mixed numbers, and decimals, including the inverse relationships of positive and negative numbers.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
MA.A 3.3.3	H	Adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Measurement	Essential Work Skills
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MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13 Compute the perimeter and area of two-dimensional figures.
			m17 Compute the volume of three-dimensional figures (solids).
			m30 Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 2.3.1	H	Uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.	m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
MA.B 2.3.2	H	Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.	m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
MA.B 3.3.1	H	Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	m13 Compute the perimeter and area of two-dimensional figures.
			m17 Compute the volume of three-dimensional figures (solids).

SSS Strand: Data Analysis and Probability	Essential Work Skills
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MA.E 3.3.1	H	Formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts.	m05 Understand the best procedures for statistical data collection, organization, and display including making estimates and predictions and drawing inferences.
			m15 Understand the characteristics of measures of central tendency (i.e., mean, median, and mode).

m36 Understand the characteristics of measures of dispersion (i.e., range, mean deviation, variance, and standard deviation).

Performance Task# 06.04 Identify and compare USDA standards and grades for agricultural products.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.6 H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.

e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 06.05 Describe how processing, packaging, and marketing affects the price of an item.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.5 H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.

e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Number Sense, Concepts, and Operations

Essential Work Skills

MA.A 2.3.2 L Understands the structure of number systems other than the decimal number system.

No Essential Work Skill

MA.A 3.3.2 H Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.

m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Measurement

Essential Work Skills

MA.B 2.3.1 H Uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.

m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.

MA.B 3.3.1 H Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.

m13 Compute the perimeter and area of two-dimensional figures.

m17 Compute the volume of three-dimensional figures (solids).

Performance Task# 06.06 Recognize misleading advertising.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.8 H Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.

e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Listening, Viewing, and Speaking

Essential Work Skills

LA.C 2.3.1 L Determines main concept, supporting details, stereotypes, bias, and persuasion techniques in a nonprint message.

e66 Demonstrate knowledge of persuasive techniques used in visual advertisements.

SSS Strand: Language		Essential Work Skills
LA.D 2.3.3	L Distinguishes between emotional and logical argument.	e70 Analyze and evaluate a speaker's statements of opinion, personal preference and values. e95 Analyze and evaluate a speaker's persuasive techniques.
LA.D 2.3.4	L Understands how the multiple media tools of graphics, pictures, color, motion, and music can enhance communication in television, film, radio, and advertising.	e68 Apply an understanding of the meaning of graphics, layout, white space, italics, parentheses, and other visual aids.
Performance Task# 06.07 Describe how competition benefits the consumer		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
Performance Task# 06.08 Record the market price of an agricultural commodity over a period of time.		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.8	H Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills
MA.A 1.3.3	H Understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions. m19 Understand the definitions and properties of rational and irrational numbers. m24 Understand the basic properties and laws of exponents and scientific notation.
SSS Strand: Measurement		Essential Work Skills
MA.B 3.3.1	H Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	m13 Compute the perimeter and area of two-dimensional figures. m17 Compute the volume of three-dimensional figures (solids).
SSS Strand: The Nature of Science		Essential Work Skills

SC.H 3.3.7 M	Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.	No Essential Work Skill
Outcome # 07.0 APPLY KNOWLEDGE AND SKILLS IN ENVIRONMENTAL RESOURCES-- THE STUDENT WILL BE ABLE TO:		
Performance Task# 07.01 Identify methods or practices of conserving natural resources.		
SSS Strand: Reading		Essential Work Skills
L.A.A 1.3.1 L	Uses background knowledge of the subject and text structure knowledge to make complex predictions of content, purpose, and organization of the reading selection.	e52 Preview textbooks for informational text to anticipate content.
		e80 Understand ways an author uses language and text characteristics to aid comprehension.
SSS Strand: Writing		Essential Work Skills
L.A.B 2.3.1 L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills
M.A.A 3.3.2 H	Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
M.A.A 3.3.3 H	Adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	m01 Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
M.A.A 4.3.1 H	Uses estimation strategies to predict results and to check the reasonableness of results.	m33 Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
SSS Strand: Processes that Shape the Earth		Essential Work Skills
S.C.D 1.3.1 M	Knows that mechanical and chemical activities shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.	s98 Know the characteristics of the erosional - depositional system by differentiating between an erosional process and a depositional process, locating the interface between erosion and deposition, and obtaining dynamic equilibrium between the two processes.
S.C.D 1.3.2 H	Knows that over the whole Earth, organisms are growing, dying, and decaying as new organisms are produced by the old ones.	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills
S.C.G 1.3.2 M	Knows that biological adaptations include changes in structures, behaviors or physiology that enhance reproductive success in a particular environment	s09 Identify the cell as a common unit between living things understand cell structure and the functions they perform

SC.G 1.3.3	M	Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.	s59	Know the classification system into which organisms are separated and grouped based on common characteristics. The classification groups include (from largest to smallest): kingdom, phylum, class, genus, and species.
SC.G 2.3.1	M	Knows that some resources are renewable and others are nonrenewable.	s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
SC.G 2.3.2	M	Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.3	M	Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H	Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.	s10	Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Performance Task# 07.02 Demonstrate a method or practice of conservation.

SSS Strand: Listening, Viewing, and Speaking			Essential Work Skills	
LA.C 3.3.2	L	Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48	Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3	L	Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.
SSS Strand: Processes that Shape the Earth			Essential Work Skills	
SC.D 2.3.2	H	Knows the positive and negative consequences of human action on the Earth's systems.	s10	Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.
SSS Strand: How Living Things Interact with Their Environment			Essential Work Skills	
SC.G 2.3.1	M	Knows that some resources are renewable and others are nonrenewable.	s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
SC.G 2.3.2	M	Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.3	M	Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H	Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.	s10	Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Performance Task# 07.03 Identify major ecosystems in Florida.		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills
SC.G 2.3.2	M Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.3	M Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.	s10 Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.
Performance Task# 07.04 Discuss the importance of the ecosystems to agriculture, society and each other.		
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills
LA.C 3.3.2	L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48 Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills
SC.G 2.3.1	M Knows that some resources are renewable and others are nonrenewable.	s60 Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
SC.G 2.3.2	M Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.	s10 Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.
SSS Strand: The Nature of Science		Essential Work Skills
SC.H 2.3.1	M Recognizes that patterns exist within and across systems.	s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures)
Performance Task# 07.05 Identify requirements of establishing and maintaining forest trees.		
SSS Strand: Writing		Essential Work Skills

LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
			e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.

SSS Strand: Measurement	Essential Work Skills
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MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13	Compute the perimeter and area of two-dimensional figures.
			m17	Compute the volume of three-dimensional figures (solids).
			m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.4	H	Constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.		No Essential Work Skill

SSS Strand: How Living Things Interact with Their Environment	Essential Work Skills
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SC.G 1.3.2	M	Knows that biological adaptations include changes in structures, behaviors or physiology that enhance reproductive success in a particular environment	s09	Identify the cell as a common unit between living things understand cell structure and the functions they perform
SC.G 1.3.3	M	Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.	s59	Know the classification system into which organisms are separated and grouped based on common characteristics. The classification groups include (from largest to smallest): kingdom, phylum, class, genus, and species.
SC.G 2.3.1	M	Knows that some resources are renewable and others are nonrenewable.	s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.
SC.G 2.3.2	M	Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.3	M	Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.	s13	Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).
SC.G 2.3.4	H	Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.	s10	Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Performance Task# 07.06 Use tools and techniques common to the forest industry.

SSS Strand: Number Sense, Concepts, and Operations	Essential Work Skills
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MA.A 3.3.2	H	Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
MA.A 3.3.3	H	Adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Measurement	Essential Work Skills
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MA.B 1.3.1	H	Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13	Compute the perimeter and area of two-dimensional figures.
			m17	Compute the volume of three-dimensional figures (solids).
			m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.2	H	Uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.		No Essential Work Skill
MA.B 1.3.3	H	Understands and describes how the change of a figure in such dimensions (length, width, height, or radius) affects its other measurements such as perimeter, area, surface area, and volume.	m13	Compute the perimeter and area of two-dimensional figures.
			m17	Compute the volume of three-dimensional figures (solids).
			m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 2.3.2	H	Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.	m33	Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.

Outcome # 08.0 DEMONSTRATE THE VALUE OF RESPONSIBILITY, GOOD WORK HABITS, AND PLANNING FOR CAREER OPPORTUNITIES IN AGRICULTURE--THE STUDENT WILL BE ABLE TO:

Performance Task# 08.01 Identify attitudes and habits necessary to achieve career success.

SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.3	L	Demonstrates consistent and effective use of interpersonal and academic vocabularies in reading, writing, listening, and speaking.	No Essential Work Skill
SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.1	L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
			e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
SSS Strand: Language		Essential Work Skills	
LA.D 1.3.3	L	Demonstrates an awareness of the difference between the use of English in formal and informal settings.	e61 Understand that diction is different in formal and informal speaking situations.
SSS Strand: How Living Things Interact with Their Environment		Essential Work Skills	
SC.G 2.3.1	M	Knows that some resources are renewable and others are nonrenewable.	s60 Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.

Performance Task# 08.02 Describe personality aspects to consider when choosing a career.		
SSS Strand: Writing		Essential Work Skills
LA.B 2.3.1	L Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
Performance Task# 08.03 Identify the basic steps in career planning.		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills
LA.B 2.3.1	L Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
Performance Task# 08.04 Develop basic career plan.		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills
LA.B 2.3.3	L Selects and uses appropriate formats for writing, including narrative, persuasive, and expository formats, according to the intended audience, purpose, and occasion.	e50 Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e62 Understand the needs of a specific audience and write and speak in ways that address these needs.
Performance Task# 08.05 Identify and research careers within a specific area of agriscience.		
SSS Strand: Reading		Essential Work Skills
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

LA.A 2.3.7 H	Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Writing		Essential Work Skills	
LA.B 1.3.3 L	Produces final documents that have been edited for: correct spelling; correct punctuation, including commas, colons, and semicolons; correct capitalization; effective sentence structure; correct common usage, including subject/verb agreement, common noun/pronoun agreement, common possessive forms, and with a variety of sentence structure, including parallel structure; and correct formatting.	e14	Use editing and revising skills to improve effectiveness and accuracy of drafts.
LA.B 2.3.1 L	Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.B 2.3.3 L	Selects and uses appropriate formats for writing, including narrative, persuasive, and expository formats, according to the intended audience, purpose, and occasion.	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e62	Understand the needs of a specific audience and write and speak in ways that address these needs.
LA.B 2.3.4 L	Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: The Nature of Science		Essential Work Skills	
SC.H 1.3.6 L	Recognizes the scientific contributions that are made by individuals of diverse backgrounds, interests, talents, and motivations.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
Outcome # 09.0 APPLY LEADERSHIP AND COMMUNICATION SKILLS--THE STUDENT WILL BE ABLE TO:			
Performance Task# 09.01 Discuss the establishment and history of the FFA organization.			
SSS Strand: Language		Essential Work Skills	
LA.D 2.3.3 L	Distinguishes between emotional and logical argument.	e70	Analyze and evaluate a speaker's statements of opinion, personal preference and values.
		e95	Analyze and evaluate a speaker's persuasive techniques.
Performance Task# 09.02 Identify the characteristics and responsibilities of organizational leaders.			
SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.4 L	Uses strategies to clarify meaning, such as rereading, note taking, summarizing, outlining, and writing a grade level-appropriate report.	e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.

Performance Task# 09.03 Demonstrate parliamentary procedure skills during a meeting. LAC 3.3.2, 3.3.3; LAD 1.3.3; SSC 1.3.6

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 3.3.2	L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48	Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Language		Essential Work Skills	
LA.D 1.3.3	L Demonstrates an awareness of the difference between the use of English in formal and informal settings.	e61	Understand that diction is different in formal and informal speaking situations.

Performance Task# 09.04 Participate on a committee which has an assigned task and report to the class.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Language		Essential Work Skills	
LA.D 1.3.3	L Demonstrates an awareness of the difference between the use of English in formal and informal settings.	e61	Understand that diction is different in formal and informal speaking situations.

Performance Task# 09.05 Use effective teaching and/or communication skills to present a lesson, deliver a speech, or conduct a demonstration.

SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.1	L Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.B 2.3.2	L Organizes information using alphabetical, chronological, and numerical systems.	e12	Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
LA.B 2.3.3	L Selects and uses appropriate formats for writing, including narrative, persuasive, and expository formats, according to the intended audience, purpose, and occasion.	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e62	Understand the needs of a specific audience and write and speak in ways that address these needs.
LA.B 2.3.4	L Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills
LA.C 1.3.1	L Listens and uses information gained for a variety of purposes, such as gaining information from interviews, following directions, and pursuing a personal interest.	e25 Listen, comprehend and summarize essential information from a variety of sources such as speeches, plays, commercials on radio and television, and political debates.
LA.C 1.3.2	L Selects and listens to readings of fiction, drama, nonfiction, and informational presentations according to personal preferences.	e47 Listen for enjoyment to narratives of personal experiences, stories, drama, performances, lectures, and readings.
LA.C 1.3.3	L Acknowledges the feelings and messages sent in a conversation.	No Essential Work Skill
LA.C 1.3.4	L Uses responsive listening skills, including paraphrasing, summarizing, and asking questions for elaboration and clarification.	e32 Make informed judgments about the content, organization, and delivery of spoken communication.
		e70 Analyze and evaluate a speaker's statements of opinion, personal preference and values.
LA.C 3.3.1	L Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92 Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.2	L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48 Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

Performance Task# 09.06 Use a computer to assist in the completion of an agricultural project.

SSS Strand: Reading		Essential Work Skills
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.8	H Checks the validity and accuracy of information obtained from research in such ways as differentiating fact and opinion, identifying strong vs. weak arguments, recognizing that personal values influence the conclusions an author draws.	e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: The Nature of Science		Essential Work Skills
SC.H 3.3.7	M Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.	No Essential Work Skill
<p>Outcome # 10.0 INTEGRATE THE USE OF SCIENCE, MATHEMATICS, READING, GEOGRAPHY, HISTORY, WRITING, AND COMMUNICATION IN AGRISCIENCE AND TECHNOLOGY--THE STUDENT WILL BE ABLE TO:</p>		

Performance Task# 10.01 Apply basic mathematics operations to solve agricultural problems.

SSS Strand: Number Sense, Concepts, and Operations		Essential Work Skills	
MA.A 1.3.4	H Understands that numbers can be represented in a variety of equivalent forms, including integers, fractions, decimals, percents, scientific notation, exponents, radicals, and absolute value.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.
		m19	Understand the definitions and properties of rational and irrational numbers.
MA.A 3.3.2	H Selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	m01	Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions.

SSS Strand: Measurement		Essential Work Skills	
MA.B 3.3.1	H Solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).

Performance Task# 10.02 Correctly use measuring devices and utilize measurements to solve agricultural problems.

SSS Strand: Measurement		Essential Work Skills	
MA.B 1.3.1	H Uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.3	H Understands and describes how the change of a figure in such dimensions : length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume.	m13	Compute the perimeter and area of two-dimensional figures.
		m17	Compute the volume of three-dimensional figures (solids).
		m30	Know how to measure circle quantities (e.g., area, angle formed by two secants, circumference, length of segments, etc.)
MA.B 1.3.4	H Constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.		No Essential Work Skill
MA.B 4.3.1	L Selects appropriate units of measurement and determines and applies significant digits in a real-world context. (Significant digits should relate to both instrument precision and to the last precise unit of measurement.)	m33	Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.
MA.B 4.3.2	L Selects and uses appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.	m33	Use the technique of dimensional analysis to convert units of measure (e.g., convert km/hr to m/min) including drawing to scale and applying ratios. Understand and use various techniques for estimating, making and converting measure; and using these to perform dimensional analysis.

SSS Strand: The Nature of Matter		Essential Work Skills	

SC.A 1.3.1	H	Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.
SC.A 1.3.2	H	Understands the difference between weight and mass.	s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.
Performance Task# 10.03 Apply the scientific method to solve an agricultural problem.				
SSS Strand: Data Analysis and Probability			Essential Work Skills	
MA.E 2.3.1	H	Compares experimental results with mathematical expectations of probabilities.	m20	Understand the characteristic differences between theoretical and empirical probability (e.g., the theoretic probability of rolling a six and a die is 1/6 ; empirical probability is derived from repeated experimentation or accumulated statistics).
			m25	Determine the probability of single and compound events using the basic premise that the probability of an event is equal to the number of ways it can occur divide by the total number of outcomes.
MA.E 3.3.1	H	Formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts.	m05	Understand the best procedures for statistical data collection, organization, and display including making estimates and predictions and drawing inferences.
			m15	Understand the characteristics of measures of central tendency (i.e., mean, median, and mode).
			m36	Understand the characteristics of measures of dispersion (i.e., range, mean deviation, variance, and standard deviation).
SSS Strand: The Nature of Science			Essential Work Skills	
SC.H 1.3.4	H	Knows that accurate record keeping, openness, and replication are essential to maintaining an investigator's credibility with other scientists and society	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 1.3.5	H	Knows that a change in one or more variables may alter the outcome of an investigation.	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
SC.H 1.3.6	L	Recognizes the scientific contributions that are made by individuals of diverse backgrounds, interests, talents, and motivations.	s116	(Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.
SC.H 1.3.7	H	Knows that when similar investigations give different results, the scientific challenge is to verify whether the differences are significant by further study	s114	(Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures
Performance Task# 10.04 Prepare written and/or oral materials using correct English grammar. LAB 1.3.1, 1.3.2, 1.3.3; LAC 3.3.1, 3.3.2, 3.3.3				

SSS Strand: Writing		Essential Work Skills
LA.B 1.3.1	L Organizes information before writing according to the type and purpose of writing.	e12 Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
LA.B 1.3.2	H Drafts and revises writing that: is focused, purposeful, and reflects insight into the writing situation; conveys a sense of completeness and wholeness with adherence to the main idea; has an organizational pattern that provide: for a logical progression of ideas; has support that is substantial, specific, relevant, concrete and/or illustrative; demonstrates a commitment to and an involvement with the subject; has clarity in presentation of ideas; uses creative writing strategies appropriate to the purpose of the paper; demonstrates a command of language (word choice) with freshness of expression; has varied sentence structure and sentences that are complete except when fragments are used purposefully; and has few, if any, convention errors in mechanics, usage, and punctuation.	e12 Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative. e14 Use editing and revising skills to improve effectiveness and accuracy of drafts.
LA.B 1.3.3	L Produces final documents that have been edited for: correct spelling; correct punctuation, including commas, colons, and semicolons; correct capitalization; effective sentence structure; correct common usage, including subject/verb agreement, common noun/pronoun agreement, common possessive forms, and with a variety of sentence structure, including parallel structure; and correct formatting.	e14 Use editing and revising skills to improve effectiveness and accuracy of drafts.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills
LA.C 3.3.1	L Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92 Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.2	L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48 Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

Performance Task# 10.05 Identify the main idea in oral presentations and/or written materials.

SSS Strand: Reading		Essential Work Skills
LA.A 2.3.1	H Determines the main idea or essential message in a text and identifies relevant details and facts and patterns of organization.	e05 Identify, collect and/or select pertinent information while reading. e15 Discriminate important ideas from unimportant ideas while reading. e50 Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.

SSS Strand: Writing		Essential Work Skills
LA.B 1.3.1	L Organizes information before writing according to the type and purpose of writing.	e12 Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.

LA.B 1.3.2 H	Drafts and revises writing that: is focused, purposeful, and reflects insight into the writing situation; conveys a sense of completeness and wholeness with adherence to the main idea; has an organizational pattern that provide: for a logical progression of ideas; has support that is substantial, specific, relevant, concrete and/or illustrative; demonstrates a commitment to and an involvement with the subject; has clarity in presentation of ideas; uses creative writing strategies appropriate to the purpose of the paper; demonstrates a command of language (word choice) with freshness of expression; has varied sentence structure and sentences that are complete except when fragments are used purposefully; and has few, if any, convention errors in mechanics, usage, and punctuation.	e12	Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
		e14	Use editing and revising skills to improve effectiveness and accuracy of drafts.

SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 1.3.1 L	Listens and uses information gained for a variety of purposes, such as gaining information from interviews, following directions, and pursuing a personal interest.	e25	Listen, comprehend and summarize essential information from a variety of sources such as speeches, plays, commercials on radio and television, and political debates.
LA.C 1.3.4 L	Uses responsive listening skills, including paraphrasing, summarizing, and asking questions for elaboration and clarification.	e32	Make informed judgments about the content, organization, and delivery of spoken communication.
		e70	Analyze and evaluate a speaker's statements of opinion, personal preference and values.
LA.C 3.3.1 L	Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92	Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.2 L	Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48	Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3 L	Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

Performance Task# 10.06 Locates, organizes, and interprets information from a variety of agricultural sources.

SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.4 L	Uses strategies to clarify meaning, such as rereading, note taking, summarizing, outlining, and writing a grade level-appropriate report.	e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.A 2.3.5 H	Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6 H	Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7 H	Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 10.07 Describe the historical evolution of agriculture.

SSS Strand: Reading		Essential Work Skills	
LA.A 1.3.4	L Uses strategies to clarify meaning, such as rereading, note taking, summarizing, outlining, and writing a grade level-appropriate report.	e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.A 2.3.5	H Locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
LA.A 2.3.7	H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Data Analysis and Probability		Essential Work Skills	
MA.E 1.3.1	H Collects, organizes, and displays data in a variety of forms, including table: line graphs, charts, bar graphs, to determine how different ways of presenting data can lead to different interpretations.	m05	Understand the best procedures for statistical data collection, organization, and display including making estimates and predictions and drawing inferences.

Outcome # 11.0 APPLY KNOWLEDGE OF BASIC COMPUTER LITERACY

Performance Task# 11.01 Describe how computers are used in agriculture.

SSS Strand: The Nature of Science		Essential Work Skills	
SC.H 3.3.7	M Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.		No Essential Work Skill

Performance Task# 11.02 Identify types of computer programs and how they are used in agriculture.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 11.03 Use a computer to assist in the completion of an agricultural project.

SSS Strand: Reading		Essential Work Skills	
LA.A 2.3.6	H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.4	L Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

SSS Strand: The Nature of Science		Essential Work Skills	
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SC.H 3.3.7 M Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others. No Essential Work Skill

Outcome # 12.0 DEMONSTRATE THE VALUE OF RESPONSIBILITY, GOOD WORK HABITS, AND PLANNING FOR CAREER OPPORTUNITIES IN AGRICULTURE

Performance Task# 12.01 Identify attitudes and habits necessary to achieve career success.

SSS Strand: Language

Essential Work Skills

LA.D 1.3.3 L Demonstrates an awareness of the difference between the use of English in formal and informal settings. e61 Understand that diction is different in formal and informal speaking situations.

Performance Task# 12.02 Discuss how poor attitudes and habits can be changed.

SSS Strand: Language

Essential Work Skills

LA.D 1.3.3 L Demonstrates an awareness of the difference between the use of English in formal and informal settings. e61 Understand that diction is different in formal and informal speaking situations.

Performance Task# 12.04 Identify the basic steps in career planning.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.6 H Uses a variety of reference materials, including indexes, magazines, newspapers, and journals; and tools, including card catalogs and computer catalogs, to gather information for research topics. e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 12.05 Assess present state of career plans.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.7 H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines. e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Performance Task# 12.06 Develop basic career plan.

SSS Strand: Reading

Essential Work Skills

LA.A 2.3.7 H Synthesizes and separates collected information into useful components using a variety of techniques, such as source cards, note cards, spreadsheet and outlines. e03 Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.

Outcome # 13.0 APPLY LEADERSHIP AND COMMUNICATION SKILLS

Performance Task# 13.01 Discuss the establishment and evolution of the FFA organization.

SSS Strand: Listening, Viewing, and Speaking

Essential Work Skills

LA.C 3.3.3 L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.

e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

Performance Task# 13.02 Identify the responsibilities of organizational officers.

SSS Strand: Reading

Essential Work Skills

LA.A 1.3.4 L Uses strategies to clarify meaning, such as rereading, note taking, summarizing, outlining, and writing a grade level-appropriate report.

e40 Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.

Performance Task# 13.03 Demonstrate parliamentary procedure skills during a meeting.

SSS Strand: Listening, Viewing, and Speaking

Essential Work Skills

LA.C 3.3.2 L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.

e48 Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.

LA.C 3.3.3 L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.

e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Language

Essential Work Skills

LA.D 1.3.3 L Demonstrates an awareness of the difference between the use of English in formal and informal settings.

e61 Understand that diction is different in formal and informal speaking situations.

Performance Task# 13.04 Participate on a committee which has an assigned task and report to the class.

SSS Strand: Listening, Viewing, and Speaking

Essential Work Skills

LA.C 3.3.3 L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.

e10 Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.

SSS Strand: Language

Essential Work Skills

LA.D 1.3.3 L Demonstrates an awareness of the difference between the use of English in formal and informal settings.

e61 Understand that diction is different in formal and informal speaking situations.

Performance Task# 13.05 Demonstrate effective communication skills.

SSS Strand: Writing		Essential Work Skills	
LA.B 2.3.1	L Writes text, notes, outlines, comments, and observations that demonstrate comprehension of content and experiences from a variety of media.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
		e40	Use writing as a tool for learning in formats such as learning logs, laboratory reports, note-taking, journals and portfolios.
LA.B 2.3.2	L Organizes information using alphabetical, chronological, and numerical systems.	e12	Draft a report that engages an audience and is concise, clear, well organized, accurate, and informative.
LA.B 2.3.3	L Selects and uses appropriate formats for writing, including narrative, persuasive, and expository formats, according to the intended audience, purpose, and occasion.	e50	Understand and use a variety of organizational formats such as compare/contrast, cause/effect, inductive/deductive, most important to least important, and least important to most important.
		e62	Understand the needs of a specific audience and write and speak in ways that address these needs.
LA.B 2.3.4	L Uses electronic technology including databases and software to gather information and communicate new knowledge.	e03	Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report.
SSS Strand: Listening, Viewing, and Speaking		Essential Work Skills	
LA.C 1.3.1	L Listens and uses information gained for a variety of purposes, such as gaining information from interviews, following directions, and pursuing a personal interest.	e25	Listen, comprehend and summarize essential information from a variety of sources such as speeches, plays, commercials on radio and television, and political debates.
LA.C 1.3.2	L Selects and listens to readings of fiction, drama, nonfiction, and informational presentations according to personal preferences.	e47	Listen for enjoyment to narratives of personal experiences, stories, drama, performances, lectures, and readings.
LA.C 1.3.3	L Acknowledges the feelings and messages sent in a conversation.		No Essential Work Skill
LA.C 1.3.4	L Uses responsive listening skills, including paraphrasing, summarizing, and asking questions for elaboration and clarification.	e32	Make informed judgments about the content, organization, and delivery of spoken communication.
		e70	Analyze and evaluate a speaker's statements of opinion, personal preference and values.
LA.C 2.3.1	L Determines main concept, supporting details, stereotypes, bias, and persuasion techniques in a nonprint message.	e66	Demonstrate knowledge of persuasive techniques used in visual advertisements.
LA.C 2.3.2	L Uses movement, placement, juxtaposition, gestures, silent periods, facial expressions, and other nonverbal cues to convey meaning to an audience.	e89	Identify and interpret levels of language, idiomatic expressions, and figures of speech that enhance oral communication.
LA.C 3.3.1	L Understands how volume, stress, pacing, and pronunciation can positively or negatively affect an oral presentation.	e92	Identify and interpret vocal characteristics that influence meaning such as tone, volume, pitch, and rate.
LA.C 3.3.2	L Asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.	e48	Ask questions of others that encourage them to participate, elaborate, and contribute to understanding topics under discussion.
LA.C 3.3.3	L Speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.	e10	Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well organized fashion, and appealing to the needs of the target audience.
SSS Strand: Language		Essential Work Skills	
LA.D 1.3.3	L Demonstrates an awareness of the difference between the use of English in formal and informal settings.	e61	Understand that diction is different in formal and informal speaking situations.

- End of File -