Agricultural Science

Unit Title: The Science of Living Things (3 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education.

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

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- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea/Enduring Understanding:

Major sciences explain the development, existence, and improvement of living things.

Essential/Guiding Question:

How can we describe basic and applied sciences that relate to agriscience?

Content:

Discovery of agriscience in the world around us.

Relation of agriscience to agriculture, agribusiness, and renewable natural resources.

Major sciences that support agriscience.

Basic and applied sciences that relate to agriscience.

Skills(Objectives):

to recognize the major sciences that explain the development, existence, and improvement of living things.

Interdisciplinary Connections:

Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s):	Other Evidence:
Define key terms	Exit ticket

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Self-Evaluation Create a bulletin board to display information within unit	individual questioning & answers Quiz Unit assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	**On Grade Level Students**	**Struggling Students**	**Special Needs/ELL**
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges.	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

can assist and challenge each other.	Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	

Unit Title: Biotechnology (4 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

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NJSLS for English Language Arts (Companion Standards)

RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Applications of Biotechnology in the Agriculture industry and how it affects how we live today	How can we explain and discuss various elements of biotechnology?
Content: Biotechnology & DNA Plant and Animal improvement Genetic engineering	**Skills(Objectives):** Define biotechnology, DNA, and other related terms. Compare methods of plant and animal improvement. Discuss historic applications of biotechnology. Explain the concept of genetic engineering. Describe applications of biotechnology in agriscience. State some safety concerns and safeguards in biotechnology.

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Interdisciplinary Connections:
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Stage 2: Assessment Evidence

Performance Task(s):
Define key terms
Self-Evaluation

Other Evidence:
Exit ticket
individual questioning & answers
Quiz
Unit assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:

Introduce this unit by serving one or more small servings of the following foods to the class members: bread, yogurt, or cheese. Explain to the class that each of these foods is a product of biotechnology because living organisms act on the food to preserve it. Name as many food products as you can that are products of biotechnology.

Identify some Web sites on the Internet where students may learn more about the production of food by plants and animals that have been improved using genetic engineering techniques

Demonstration
Individual activities
Pair-sharing
Cooperative learning activities

Resources:

Agriscience Fundamentals and Applications 4th edition; Burton and Cooper

LGBT and Disabilities Resources:
- LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth
- LGBTQ+ Books

DEI Resources:
- Learning for Justice
- GLSEN Educator Resources
- Supporting LGBTQIA Youth Resource List
- Respect Ability: Fighting Stigmas, Advancing Opportunities
- NJDOE Diversity, Equity & Inclusion Educational Resources
- Diversity Calendar

Differentiation
*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student).	Varying sets of reading comprehension questions to answer for a given chapter	Varying sets of reading comprehension questions to answer for a given chapter	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to:

A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	(either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	(either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Unit Title: Career Options and Leadership Development in Agriscience (8 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

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9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.

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9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science

HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)

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Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
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9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
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Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Career opportunities in agriscience. Basic leadership skills Parliamentary procedure Work based learning-FFA	How do we develop basic leadership skills utilized within the agriculture industry to include FFA? How can we survey the variety of career opportunities in agriscience, observe how they are classified, and consider how he or she can prepare for careers in agriscience?
Content: Effective leadership and development **Work Based Learning :** Explore job opportunities in farm and off-farm agriscience jobs. Future Farmers of America Field trip to tour a working farm	**Skills(Objectives):** Define agriscience and its major divisions. Describe the opportunities for careers in agriscience. Compare the scope of job opportunities in farm and off-farm agriscience jobs. List activities in middle school, high school, and thereafter to help prepare for agriscience careers. Identify resource people for obtaining career assistance in agriscience. Define leader and leadership. Explain why effective leadership is needed in agriscience. List some characteristics of good leaders. Describe the opportunities for leadership development in FFA.

Interdisciplinary Connections:
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Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Make a list of 10 to 15 interests you currently have. research for careers that may incorporate some of your interests or that appear to be interesting to you. Write those careers next to the interests on your list and consider your future in those professions quiz, unit assessment	Career Wheel project Exit ticket individual questioning & answers Quiz Unit assessment

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Mock FFA meeting utilizing parliamentary procedure, Define key terms Self-Evaluation	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
In small groups, describe the characteristics of a good leader. Produce examples of people who were/are good leaders and explain why. Present your ideas to the rest of the class. Introduce this unit by serving one or more small servings of the following foods to the class members: bread, yogurt, or cheese. Explain to the class that each of these foods is a product of biotechnology because living organisms act on the food to preserve it. Name as many food products as you can that are products of biotechnology. Class activity of practicing parliamentary procedure Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

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Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Allow for translators, dictionaries

Unit Title: Water and Soil Conservation (4 days)

Stage 1: Desired Results

Standards & Indicators:

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NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

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HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)

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Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Relationships between water and soil in our environment and the recommended practices for conserving these resources.	How do we determine the relationships between water and soil in our environment and the recommended practices for conserving these resources?
Content: Water & Soil Major threats to water quality. Soil, water and plant growth. Soil and water conservation practice	**Skills (Objectives):** Define water, soil, and related terms. Cite important relationships between land characteristics and water quality. Describe types of soil water and their relationships to plant growth.

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	Cite examples of enormous erosion problems worldwide. Describe key factors affecting soil erosion by wind and water. List important soil and water conservation practices.

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- Classroom or laboratory instruction.
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Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Prepare a class presentation and demonstration on soil and water conservation Define key terms Self-Evaluation	Exit ticket individual questioning & answers Quiz

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
In small groups, describe the characteristics of a good leader. Produce examples of people who were/are good leaders and explain why. Present your ideas to the rest of the class. Discuss some major threats to water quality. Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

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Unit Title: Forest Management & Wildlife Management (10 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
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Agricultural Science

9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science

HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)

RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts

Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

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9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Forests are ecosystems characterized by a dominance of tree cover and they contain a variety of other organisms Forests can be managed for single or multiple uses. These uses may require different management methods. Wildlife conservation goal is to ensure the wise use and management of renewable resources. Given the right circumstances, living organisms that we call renewable resources can replenish themselves indefinitely.	How can you determine the relationship of forests to our environment and the recommended practices for utilizing forest resources? How can you determine the relationship between wildlife and the environment and approved practices in managing wildlife enterprises?
Content: Forest regions in US Types and Species of Trees Woodlot management Wildlife Management	**Skills(Objectives):** Define forest terms. Describe the forest regions of the United States. Identify important types and species of trees. Describe how a tree grows. Discuss important properties of wood. Apply principles of good woodlot management. Describe procedures for seasoning lumber. Define wildlife terms. Identify characteristics of wildlife. Describe relationships between types of wildlife. Understand the relationships between wildlife and humans. Describe classifications of wildlife management. Identify approved practices in wildlife management.

Interdisciplinary Connections:
Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

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Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s):
Create a plant log consisting of 25 plants
Define key terms
Self-Evaluation

Other Evidence:
Exit ticket
individual questioning & answers
Quiz

Stage 3: Learning Plan

Learning Opportunities/Strategies:
Demonstration
Individual activities
Pair-sharing
Cooperative learning activities

Discuss important relationships among forests, wildlife, and water resources.

List any 10 trees and whether they are deciduous or evergreen.

List any 10 wildlife species found in the Pine Barrens

Discuss the future of wildlife in the United States.

Resources:

Agriscience Fundamentals and Applications 4th edition; Burton and Cooper

LGBT and Disabilities Resources:
- LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth
- LGBTQ+ Books

DEI Resources:
- Learning for Justice
- GLSEN Educator Resources
- Supporting LGBTQIA Youth Resource List
- Respect Ability: Fighting Stigmas, Advancing Opportunities
- NJDOE Diversity, Equity & Inclusion Educational Resources
- Diversity Calendar

Differentiation
*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual,

An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Unit Title: Biological,Cultural, and Chemical Control of Pests (5 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer

relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:	**Essential/Guiding Question:**
Biological and chemical control of pests found within the agricultural industry, pesticide safety	How do we develop an understanding of the major pest groups and some elements of effective pest management programs?

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	How do the major pest groups adversely affect agriscience activities?
Content: Pest Management Roles of Insects	**Skills(Objectives):** Define pest, disease, insect, weed, biological, cultural, chemical, and other terms associated with integrated pest management. Describe weeds based on their life cycles. Describe both the beneficial and detrimental roles that insects play. Recognize the major components and the causal agents of disease. Understand and explain the concept of integrated pest management.and pesticide safety

Interdisciplinary Connections:
Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
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Stage 2: Assessment Evidence

Performance Task(s): Define key terms Self-Evaluation Create an IPM program	**Other Evidence:** Bulletin Board, Exit ticket individual questioning & answers Quiz

Stage 3: Learning Plan

Learning Opportunities/Strategies: Demonstration Individual activities Pair-sharing Cooperative learning activities List any 5 pests that are found on plants	**Resources:** Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List

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	• Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

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Unit Title: Plant Structures and Taxonomy (6 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
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9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
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9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
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NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

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RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:	**Essential/Guiding Question:**
Every part of a plant has an important function.	What are the major parts of plants and their function?
Content: Plant parts and functions Plant and root structures Vegetation	**Skills(Objectives):** Draw and label the major parts of plants. Describe the major functions of roots, stems, fruits, and leaves. Draw and label the parts of a typical root, stem, flower, fruit, and leaf. Explain some of the variations found in the structures of root systems, stems, flowers, fruits, and leaves. Describe the relationship of plant parts to fruits, nuts, vegetables, and crops.

Interdisciplinary Connections:

Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

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Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Define key terms Self-Evaluation Create a bulletin board to display parts of a plant and their functions	Brochure Exit ticket individual questioning & answers Quiz

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	**On Grade Level Students**	**Struggling Students**	**Special Needs/ELL**
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing.	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks

Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Allow for translators, dictionaries

Unit Title: Vegetable Production (5 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
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NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

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HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
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9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:

Vegetable production plays a significant role in determining the economic conditions for farmers. Vegetable crops are efficient to generate cash even from a small plot of land in a short period of time and helps farmers to improve their livelihood

Essential/Guiding Question:

How do we determine the opportunities in and identify the basic principles of vegetable production.?

Why is a business plan important?

Content:

Vegetable Production
Harvesting

Skills(Objectives):

Determine the benefits of vegetable production as a personal enterprise or career opportunity

Identify vegetable crops.

Plan a vegetable production enterprise and prepare a site for planting.

Describe how to plant vegetable crops and utilize appropriate cultural practices.

List appropriate procedures for harvesting and storing at least one commercial vegetable crop.

Interdisciplinary Connections:

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- Classroom or laboratory instruction.

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- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
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Stage 2: Assessment Evidence

Performance Task(s):
Define key terms
Self-Evaluation

Create a business plan for a virtual vegetable production enterprise. The plan should include all estimated costs like fuel, seed, hired help, and the like. The size of the property and the type of crop to be planted should be given. Assume that the business will have a fair yield and that the crop will sell at the average market value. Find the estimated profit by subtracting the costs from the income. As a class, discuss the business plan.

Other Evidence:
Business plan rubric created by the class input
Exit ticket
individual questioning & answers
Quiz
Unit assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:
Demonstration
Individual activities
Pair-sharing
Cooperative learning activities

List five vegetables and how to plant vegetable crops and utilize appropriate cultural practices.

Resources:
Agriscience Fundamentals and Applications 4th edition; Burton and Cooper

LGBT and Disabilities Resources:
- LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth
- LGBTQ+ Books

DEI Resources:
- Learning for Justice
- GLSEN Educator Resources
- Supporting LGBTQIA Youth Resource List
- Respect Ability: Fighting Stigmas, Advancing Opportunities
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Differentiation
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High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
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A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Unit Title: Fruit and Nut Production, Grain,Oil,and Specialty Field-Crop Production (9 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
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9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.

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9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
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NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

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NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:	Essential/Guiding Question:
Fruits and nuts are also essential in value-added production in U.S. agri-food supply chains. Fruit crops and nut trees can add diversity to any farm or garden.	How do you determine the opportunities and identify the basic principles of fruit and nut production? How do you determine the nature of and approved practices recommended for grain, oil, and specialty field crop production?

Agricultural Science

Content: Fruit and Nut crops Career Opportunities Field - Crop production	**Skills(Objectives):** Determine the benefits of fruit and/or nut production as a personal enterprise or career opportunity. Identify fruit and nut crops. Describe how to plant fruit and nut trees and utilize appropriate cultural practices in fruit and nut production. List appropriate procedures for harvesting and storing at least one commercial fruit or nut crop. Identify major crops grown for grain, oil, and special purposes. Classify field crops according to use and thermo requirements. Describe how to select field crops, varieties, and seed. Prepare proper seedbeds for grain, oil, and specialty crops. Plant field crops. Describe current irrigation practices for field crops to meet their water needs.

Interdisciplinary Connections:
Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s): Define key terms Self-Evaluation Create questions to ask a local grower (guest speaker/field trip) Plan a fruit or nut production enterprise and prepare a site for planting Poster project to display 5 different grains	**Other Evidence:** Reflection paper Student created rubric for poster project Exit ticket individual questioning & answers Quiz Unit assessment

Agricultural Science

Stage 3: Learning Plan

Learning Opportunities/Strategies:
Demonstration
Individual activities
Pair-sharing
Cooperative learning activities

List five fruits and / or nuts and how to plant vegetable crops and utilize appropriate cultural practices.

List five grains and how to plant vegetable crops and utilize appropriate cultural practices.

Resources:
Agriscience Fundamentals and Applications 4th edition; Burton and Cooper

LGBT and Disabilities Resources:
- LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth
- LGBTQ+ Books

DEI Resources:
- Learning for Justice
- GLSEN Educator Resources
- Supporting LGBTQIA Youth Resource List
- Respect Ability: Fighting Stigmas, Advancing Opportunities
- NJDOE Diversity, Equity & Inclusion Educational Resources
- Diversity Calendar

Differentiation
*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

	that they can tutor each other.	they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	

Unit Title: Animal Anatomy, Physiology,Nutrition, Small Animal Care and Management (10 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

Agricultural Science

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts**.**

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:

Animal physiology examines how biological processes function, how they operate under various environmental conditions, and how these processes are regulated and integrated.

Small animals serve as companions and pets to almost 60% of all American families.Children learn responsibility and social skills Elderly people benefit from quality of life.

Essential/Guiding Question:

How do you determine the nutritional requirements of animals and satisfy those requirements?

How do you determine the types, uses, care, and management of small animals?

Content:

Animal Physiology
Nutrients
Classes of small animal

Skills(Objectives):

Compare animal digestive systems.

Understand the basics of animal physiology.

Understand how nutrients are used by animals.

Identify classes and sources of nutrients.

Identify symptoms of nutrient deficiencies.

Explain the role of feed additives in livestock nutrition.

Agricultural Science

	Compare the composition of various feedstuffs Describe the domestication and history of small animals Determine the economic importance of the various classes of small animals. List the types and uses of the various classes of small animals. Describe the approved practices in feeding and caring for small animals

Interdisciplinary Connections:
Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s):, Define key terms Self-Evaluation Split the class into four small groups. Each group will research the daily nutrient requirements of a different domestic animal of their choosing. The groups may use the Internet, library resources, or any other reliable source. After compiling their information, the groups will share their findings with the class.	**Other Evidence:** Research project Exit ticket individual questioning & answers Quiz

Stage 3: Learning Plan

Learning Opportunities/Strategies: Demonstration Individual activities Pair-sharing Cooperative learning activities List as many nutrient requirements are need for optimum health of domestic animals Name one small animal and list 5 essential needs of that animal	**Resources:** Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books DEI Resources: ● Learning for Justice

Agricultural Science

	• GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Agricultural Science

Unit Title: Dairy and Livestock Management (5 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

Agricultural Science

Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding: Livestock are domesticated animals raised in an agricultural setting to provide labor and produce commodities such as meat, eggs, milk, fur, leather, and wool.	**Essential/Guiding Question:**. How do you determine the history, types, uses, care, and management of dairy and livestock?
Content: Management of Dairy Livestock	**Skills(Objectives):** Describe the history and economic importance of dairy and livestock. Recognize major types and classes of livestock. List major uses of livestock. Understand basic approved practices in the care and management of dairy and livestock.

Interdisciplinary Connections:
Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s): Define key terms Self-Evaluation	**Other Evidence:** Exit ticket individual questioning & answers

Agricultural Science

Create a bulletin board to display information within unit	Quiz Unit Assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Demonstration Individual activities Pair-sharing Cooperative learning activities List three types of livestock and five dairy products that you enjoy to eat	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	**On Grade Level Students**	**Struggling Students**	**Special Needs/ELL**
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges.	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

can assist and challenge each other.	Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	

Unit Title: The Food Industry and Food Science (10 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)

Agricultural Science

RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
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- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts**.**

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:

Many consumers take for granted the availability and selection of products in the United States. But, getting a product from the producer to the final consumer requires different steps such as production, harvesting, processing, transportation, and marketing. Each of these areas plays a vital role in taking food from the farm to the table.

There are many benefits to food processing such as increased food consistency and shelf life. Processing also improves the marketability, convenience, and seasonable availability of food.

Essential/Guiding Question

How can we explore elements, trends, and career opportunities in the food industry?

What are the nutrient requirements for human health and the processes used in food science to ensure an adequate and wholesome food supply?

Content:

Food industry
Government regulations of food

Skills(Objectives):

Explain what is meant by the term food industry.

Agricultural Science

Crop and animal production in world Food science careers	Determine the importance of the food industry to the consumer. Describe the economic scope of the food industry. Identify government requirements and other assurances of food quality and sanitation. Compare the major crop and animal commodity production areas in the nation and the world. Discuss the major food commodity groups and their predominant origins. Explain the major operations that occur in the food industry. Describe career opportunities in food science. Discuss future developments predicted for the food industry.

Interdisciplinary Connections:

Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.
- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s):	Other Evidence:
Define key terms Self-Evaluation Reflection paper on “Food Industry” video	Exit ticket individual questioning & answers Quiz Unit Assessment GMO persuasive essay

Stage 3: Learning Plan

Learning Opportunities/Strategies:	Resources:
Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books

Agricultural Science

Identify government requirements and other assurances of food quality and sanitation; define GMO	DEI Resources: ● Learning for Justice ● GLSEN Educator Resources ● Supporting LGBTQIA Youth Resource List ● Respect Ability: Fighting Stigmas, Advancing Opportunities ● NJDOE Diversity, Equity & Inclusion Educational Resources ● Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Agricultural Science

Unit Title: Marketing in Agriscience (5 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

NJSLS For Science
HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

NJSLS for English Language Arts (Companion Standards)
RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
WHST.11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

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Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas	With a growth mindset, failure is an important part of success.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a)	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea / Enduring Understanding:	**Essential/Guiding Question:**
There are many strategies and procedures for marketing agricultural commodities to maximize profits.	What are key components to creating an advertisement?
Content: Marketing Strategies Wholesale and retail marketing Costs of marketing Marketing trends	**Skills(Objectives):** Describe the marketing strategies that maximize profits. Describe various pricing strategies. Distinguish between wholesale and retail marketing. Describe some methods of marketing at farms, roadside stands, and farmers' markets. Discuss advantages and disadvantages of terminal markets, auctions, and direct marketing. Recognize fees, commissions, and other costs of marketing. Understand the grades of some popular agriscience commodities. Recognize marketing trends and cycles. Describe the use of futures in agriscience marketing.

Interdisciplinary Connections:

Agricultural education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management and technology.

Agricultural education is delivered through three interconnected components:

- Classroom or laboratory instruction.

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- Experiential learning - Learning experiences that usually take place outside of the classroom, supervised by the agriculture instructor.
- Leadership education - delivered through student organizations such as the National FFA Organization, the National Young Farmer Education Association, National Postsecondary Agricultural Student Organization and others.

Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Define key terms Self-Evaluation Marketing and advertising for agricultural commodity project	Exit ticket individual questioning & answers Quiz Unit Assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Demonstration Individual activities Pair-sharing Cooperative learning activities List the procedures for handling livestock to minimize losses during marketing.	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources • Supporting LGBTQIA Youth Resource List • Respect Ability: Fighting Stigmas, Advancing Opportunities • NJDOE Diversity, Equity & Inclusion Educational Resources • Diversity Calendar

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	**On Grade Level Students**	**Struggling Students**	**Special Needs/ELL**
Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized enrichment materials. An adaptive assessment that gets harder depending on how a student is performing.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials.	Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student). A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency

One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	Provide word banks Allow for translators, dictionaries

Unit Title: Entrepreneurship in Agriscience (5 days)

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standard 9.3-Career and Technical Education

9.3.12.AG-ANI.5 Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
9.3.12.AG-ANI.6 Classify, evaluate and select animals based on anatomical and physiological characteristics.
9.3.12.AG-ANI.7 Apply principles of effective animal health care.
9.3.12.AG-FD.1 Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2 Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3 Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4 Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.BM.1 Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
9.3.12.BM.2 Describe laws, rules and regulations as they apply to effective business operations.
9.3.12.BM.3 Explore, develop and apply strategies for ensuring a successful business career.
9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.
9.3.12.BM.5 Implement systems, strategies and techniques used to manage information in a business.
9.3.12.BM.6 Implement, monitor and evaluate business processes to ensure efficiency and quality results.

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HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on climate change and other natural systems.

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Central Idea / Enduring Understanding:	**Essential/Guiding Question:**
Entrepreneurs are essential to economic development in the 21st century. An entrepreneurial mindset recognizes opportunity through curiosity, trends and innovative thinking. Individuals become better employees, knowing the responsibilities and risks of business ownership. Entrepreneurs are visionary individuals who have confidence in their business ventures.	What are key components to consider when starting your own business?
Content:	**Skills(Objectives):**
Entrepreneurship	Define and describe entrepreneurship.

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Self- employment Small business ventures	Describe steps in planning a business venture. State five basic functions performed in the operation of a small business. Select a product or service for a personal or group enterprise. Determine the basic functions performed by small-business managers. Analyze the outcome of a business venture. Use small-business financial records. Analyze the benefits of self-employment versus other types of employment

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Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Define key terms Self-Evaluation Agribusiness project (individual or groups)	Exit ticket individual questioning & answers Quiz Unit Assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Demonstration Individual activities Pair-sharing Cooperative learning activities	Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources: • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books DEI Resources: • Learning for Justice • GLSEN Educator Resources

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Pacing Guide

Agriculture	TextBook: Agriscience Fundamentals and Applications	CTE Standards
UNIT 1: (24 Days) Science of Living Things Biotechnology Career Options & Leadership Development in Agriscience Water Soil Conservation Forest Management	**Chapters:** 1: (3 Days) 2: (4 Days) 3: (5 Days) 4: (3 days) 5:(4 Days) 6: (5 Days)	9.3.12.AG-ANI.5-7 9.3.12.AG-FD.1 -4 9.3.12.BM.1-6 RST.11-12.2. WHST.11-12.2. HS-LS2-6 HS-LS2-7 HS-LS4-4 HS-ESS2-7
UNIT 2: (21 Days) Wildlife Management Biological, Cultural, & Chemical Control of Pests Plant Structures & Taxonomy Vegetable Production	**Chapters:** 7: (5 Days) 8: (5 Days) 9:(6 Days) 10: (5 Days)	9.3.12.AG-ANI.5-7 9.3.12.AG-FD.1 -4 9.3.12.BM.1-6 RST.11-12.2. WHST.11-12.2. HS-LS2-6 HS-LS2-7 HS-LS4-4 HS-ESS2-7
UNIT 3: (24 Days) Fruit & Nut Production Grain, Oil, & Speciality Field-Crop Production Animal Anatomy,Physiology, & Nutrition Small Animal Care & Management Dairy & LIvestock Management	**Chapters:** 11: (5 Days) 12: (4 Days) 13: (5 Days) 14: (5 Days) 15: (5 Days)	9.3.12.AG-ANI.5-7 9.3.12.AG-FD.1 -4 9.3.12.BM.1-6 RST.11-12.2. WHST.11-12.2. HS-LS2-6 HS-LS2-7 HS-LS4-4 HS-ESS2-7
UNIT 4: (20 Days) The Food Industry & Food Science Marketing in Agriscience Entrepreneurship in Agriscience	**Chapters:** 16: (10 Days) 17: (5 Days) 18: (5 Days)	9.3.12.AG-ANI.5-7 9.3.12.AG-FD.1 -4 9.3.12.BM.1-6 RST.11-12.2. WHST.11-12.2. HS-LS2-6 HS-LS2-7 HS-LS4-4 HS-ESS2-7