

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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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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- 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

<p><u>Central Idea/Enduring Understanding:</u></p> <p>Major sciences explain the development, existence, and improvement of living things.</p>	<p><u>Essential/Guiding Question:</u></p> <p>How can we describe basic and applied sciences that relate to agriscience?</p>
<p><u>Content:</u></p> <p>Discovery of agriscience in the world around us.</p> <p>Relation of agriscience to agriculture, agribusiness, and renewable natural resources.</p> <p>Major sciences that support agriscience.</p> <p>Basic and applied sciences that relate to agriscience.</p> <p><u>Work Based Learning :</u></p> <p>Virtual field trip careers in agriscience</p>	<p><u>Skills(Objectives):</u></p> <p>to recognize the major sciences that explain the development, existence, and improvement of living things.</p>

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:

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- 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 a bulletin board to display information within unit

Other Evidence:

Exit ticket
individual questioning & answers
Quiz
Unit assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:

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
<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>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</p>

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries</p>
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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

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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.

NJSLS for English Language Arts

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/ experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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:

Applications of Biotechnology in the Agriculture industry and how it affects how we live today

Essential/Guiding Question:

How can we explain and discuss various elements of biotechnology?

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<p><u>Content:</u></p> <p>Biotechnology & DNA</p> <p>Plant and Animal improvement</p> <p>Genetic engineering</p> <p><u>Work Based Learning :</u> FFA Career Development Event</p>	<p><u>Skills(Objectives):</u></p> <p>Define biotechnology, DNA, and other related terms.</p> <p>Compare methods of plant and animal improvement.</p> <p>Discuss historic applications of biotechnology.</p> <p>Explain the concept of genetic engineering.</p> <p>Describe applications of biotechnology in agriscience.</p> <p>State some safety concerns and safeguards in biotechnology.</p>
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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

<p><u>Performance Task(s):</u></p> <p>Define key terms</p> <p>Self-Evaluation</p>	<p><u>Other Evidence:</u></p> <p>Exit ticket</p> <p>individual questioning & answers</p> <p>Quiz</p> <p>Unit assessment</p>
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Stage 3: Learning Plan

<p><u>Learning Opportunities/Strategies:</u></p> <p>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.</p> <p>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</p> <p>Demonstration</p> <p>Individual activities</p>	<p><u>Resources:</u></p> <p>Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> ● Learning for Justice ● GLSEN Educator Resources ● Supporting LGBTQIA Youth Resource List ● Respect Ability: Fighting Stigmas, Advancing Opportunities
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Pair-sharing Cooperative learning activities	<ul style="list-style-type: none"> • 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

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

Stage 1: Desired Results

Standards & Indicators:

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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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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.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.

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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

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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.
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.
<p><u>Central Idea/Enduring Understanding:</u></p> <p>Career opportunities in agriscience.</p> <p>Basic leadership skills</p> <p>Parliamentary procedure</p> <p>Work based learning-FFA</p>		<p><u>Essential/Guiding Question:</u></p> <p>How do we develop basic leadership skills utilized within the agriculture industry to include FFA?</p> <p>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?</p>
<p><u>Content:</u></p> <p>Effective leadership and development</p> <p><u>Work Based Learning :</u></p> <p>Explore job opportunities in farm and off-farm agriscience jobs</p> <p>Virtual field trips to farms</p> <p>Future Farmers of America</p> <p>Field trip to tour a working farm</p>		<p><u>Skills(Objectives):</u></p> <p>Define agriscience and its major divisions.</p> <p>Describe the opportunities for careers in agriscience.</p> <p>Compare the scope of job opportunities in farm and off-farm agriscience jobs.</p> <p>List activities in middle school, high school, and thereafter to help prepare for agriscience careers.</p> <p>Identify resource people for obtaining career assistance in agriscience.</p> <p>Define leader and leadership.</p> <p>Explain why effective leadership is needed in agriscience.</p> <p>List some characteristics of good leaders.</p> <p>Describe the opportunities for leadership development in FFA.</p>
<p><u>Interdisciplinary Connections:</u></p> <p>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.</p> <p>Agricultural education is delivered through three interconnected components:</p>		

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Stage 2: Assessment Evidence

Performance Task(s):

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

Mock FFA meeting utilizing parliamentary procedure,

Define key terms
Self-Evaluation

Other Evidence:

Career Wheel project
Exit ticket
individual questioning & answers
Quiz
Unit assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:

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

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:

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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	Varying sets of reading comprehension	Varying sets of reading comprehension	Any student requiring further accommodations and/or modifications will have them individually listed in

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p> <p>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</p>
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Unit Title: Water and Soil Conservation (4 days)

Stage 1: Desired Results

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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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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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Agricultural Science

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.
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Central Idea/Enduring Understanding: Relationships between water and soil in our environment and the recommended practices for conserving these resources.	Essential/Guiding Question: How do we determine the relationships between water and soil in our environment and the recommended practices for conserving these resources?
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Content: Water & Soil Major threats to water quality. Soil, water and plant growth. Soil and water conservation practice Work Based Learning : FFA Career Development Event Field Trip Longwood Gardens	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. 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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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): Prepare a class presentation and demonstration on soil and water conservation Define key terms Self-Evaluation	Other Evidence: Exit ticket individual questioning & answers Quiz
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Stage 3: Learning Plan

Learning Opportunities/Strategies: In small groups, describe the characteristics of a good leader. Produce examples of people who	Resources: Agriscience Fundamentals and Applications 4th edition; Burton and Cooper
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Agricultural Science

<p>were/are good leaders and explain why. Present your ideas to the rest of the class.</p> <p>Discuss some major threats to water quality.</p> <p>Demonstration Individual activities Pair-sharing Cooperative learning activities</p>	<p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> • 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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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
<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p> <p>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</p>

Agricultural Science

		Weekly conference to set short term goals	
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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.

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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Agricultural Science

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

<p><u>Central Idea/Enduring Understanding:</u></p> <p>Forests are ecosystems characterized by a dominance of tree cover and they contain a variety of other organisms</p> <p>Forests can be managed for single or multiple uses. These uses may require different management methods.</p> <p>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.</p>	<p><u>Essential/Guiding Question:</u></p> <p>How can you determine the relationship of forests to our environment and the recommended practices for utilizing forest resources?</p> <p>How can you determine the relationship between wildlife and the environment and approved practices in managing wildlife enterprises?</p>
<p><u>Content:</u></p> <p>Forest regions in US Types and Species of Trees Woodlot management</p>	<p><u>Skills(Objectives):</u></p> <p>Define forest terms.</p> <p>Describe the forest regions of the United States.</p>

Agricultural Science

<p>Wildlife Management</p> <p>Work Based Learning : FFA Career Development Event Guest Speaker Arborist</p>	<p>Identify important types and species of trees.</p> <p>Describe how a tree grows.</p> <p>Discuss important properties of wood.</p> <p>Apply principles of good woodlot management.</p> <p>Describe procedures for seasoning lumber.</p> <p>Define wildlife terms.</p> <p>Identify characteristics of wildlife.</p> <p>Describe relationships between types of wildlife.</p> <p>Understand the relationships between wildlife and humans.</p> <p>Describe classifications of wildlife management.</p> <p>Identify approved practices in wildlife management.</p>
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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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- 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

<p>Performance Task(s): Create a plant log consisting of 25 plants Define key terms Self-Evaluation</p>	<p>Other Evidence: Exit ticket individual questioning & answers Quiz</p>
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Stage 3: Learning Plan

<p>Learning Opportunities/Strategies: Demonstration Individual activities Pair-sharing Cooperative learning activities</p>	<p>Resources: Agriscience Fundamentals and Applications 4th edition; Burton and Cooper LGBT and Disabilities Resources:</p>
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Agricultural Science

<p>Discuss important relationships among forests, wildlife, and water resources.</p> <p>List any 10 trees and whether they are deciduous or evergreen.</p> <p>List any 10 wildlife species found in the Pine Barrens</p> <p>Discuss the future of wildlife in the United States.</p>	<ul style="list-style-type: none"> • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> • 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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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
<p>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.</p>	<p>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.</p>	<p>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.</p> <p>Allow extra time on assessments Provide study guides Weekly conference to set short term goals</p>	<p>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</p> <p>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</p>

Agricultural Science

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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

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Agricultural Science

- 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

<p><u>Central Idea / Enduring Understanding:</u> Biological and chemical control of pests found within the agricultural industry, pesticide safety</p>	<p><u>Essential/Guiding Question:</u></p> <p>How do we develop an understanding of the major pest groups and some elements of effective pest management programs?</p> <p>How do the major pest groups adversely affect agriscience activities?</p>
<p><u>Content:</u></p> <p>Pest Management Roles of Insects</p> <p><u>Work Based Learning :</u> Virtual field trip IPM, Greenhouse Maintenance Field Trip Philadelphia Flower Show Field Trip Longwood Gardens</p>	<p><u>Skills(Objectives):</u></p> <p>Define pest, disease, insect, weed, biological, cultural, chemical, and other terms associated with integrated pest management.</p> <p>Describe weeds based on their life cycles.</p> <p>Describe both the beneficial and detrimental roles that insects play.</p> <p>Recognize the major components and the causal agents of disease.</p> <p>Understand and explain the concept of integrated pest management and pesticide safety</p>

Agricultural Science

Interdisciplinary Connections:

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- Classroom or laboratory instruction.
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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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Agricultural Science

<p>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.</p>	<p>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.</p>	<p>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</p>	<p>kinesthetic, model), and/or small group instruction for reading/writing</p> <p>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</p>
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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

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- 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.
- 9.3.12.BM.4 Identify, demonstrate and implement solutions in managing effective business customer relationships.

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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

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

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- 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

<p><u>Performance Task(s):</u></p> <p>Define key terms Self-Evaluation Create a bulletin board to display parts of a plant and their functions</p>	<p><u>Other Evidence:</u></p> <p>Brochure Exit ticket individual questioning & answers Quiz</p>
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Stage 3: Learning Plan

<p><u>Learning Opportunities/Strategies:</u></p> <p>Demonstration Individual activities Pair-sharing Cooperative learning activities</p>	<p><u>Resources:</u></p> <p>Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books <p>DEI Resources:</p>
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	<ul style="list-style-type: none"> • 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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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
<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p> <p>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</p>

Agricultural Science

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.

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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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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- 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

<p><u>Central Idea / Enduring Understanding:</u></p> <p>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</p>	<p><u>Essential/Guiding Question:</u></p> <p>How do we determine the opportunities in and identify the basic principles of vegetable production.?</p> <p>Why is a business plan important?</p>
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<p><u>Content:</u></p> <p>Vegetable Production Harvesting</p> <p><u>Work Based Learning :</u> FFA Career Development Event</p>	<p><u>Skills(Objectives):</u></p> <p>Determine the benefits of vegetable production as a personal enterprise or career opportunity</p> <p>Identify vegetable crops.</p> <p>Plan a vegetable production enterprise and prepare a site for planting.</p> <p>Describe how to plant vegetable crops and utilize appropriate cultural practices.</p> <p>List appropriate procedures for harvesting and storing at least one commercial vegetable crop.</p>
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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):

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](#)
- [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	Varying sets of reading comprehension questions to answer	Varying sets of reading comprehension questions to answer	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p> <p>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</p>
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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.

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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.
<p><u>Central Idea / Enduring Understanding:</u></p> <p>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.</p>		<p><u>Essential/Guiding Question:</u></p> <p>How do you determine the opportunities and identify the basic principles of fruit and nut production?</p> <p>How do you determine the nature of and approved practices recommended for grain, oil, and specialty field crop production?</p>
<p><u>Content:</u></p> <p>Fruit and Nut crops Career Opportunities Field - Crop production</p> <p><u>Work Based Learning :</u> FFA Career Development Event Field Trip Philadelphia Flower Show</p>		<p><u>Skills(Objectives):</u></p> <p>Determine the benefits of fruit and/or nut production as a personal enterprise or career opportunity.</p> <p>Identify fruit and nut crops.</p> <p>Describe how to plant fruit and nut trees and utilize appropriate cultural practices in fruit and nut production.</p> <p>List appropriate procedures for harvesting and storing at least one commercial fruit or nut crop.</p> <p>Identify major crops grown for grain, oil, and special purposes.</p> <p>Classify field crops according to use and thermo requirements.</p> <p>Describe how to select field crops, varieties, and seed.</p> <p>Prepare proper seedbeds for grain, oil, and specialty crops.</p> <p>Plant field crops.</p> <p>Describe current irrigation practices for field crops to meet their water needs.</p>
<p><u>Interdisciplinary Connections:</u></p> <p>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.</p> <p>Agricultural education is delivered through three interconnected components:</p> <ul style="list-style-type: none"> ● 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

<p>Performance Task(s): Define key terms Self-Evaluation</p> <p>Create questions to ask a local grower (guest speaker/field trip)</p> <p>Plan a fruit or nut production enterprise and prepare a site for planting</p> <p>Poster project to display 5 different grains</p>	<p>Other Evidence: Reflection paper Student created rubric for poster project Exit ticket individual questioning & answers Quiz Unit assessment</p>
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Stage 3: Learning Plan

<p>Learning Opportunities/Strategies: Demonstration Individual activities Pair-sharing Cooperative learning activities</p> <p>List five fruits and / or nuts and how to plant vegetable crops and utilize appropriate cultural practices.</p> <p>List five grains and how to plant vegetable crops and utilize appropriate cultural practices.</p>	<p>Resources: Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> • 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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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	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	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	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

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries</p>
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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

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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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/ experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

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?

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<p>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.</p>	
<p>Content: Animal Physiology Nutrients Classes of small animal</p> <p>Work Based Learning : Virtual field trip small animal farm</p>	<p>Skills(Objectives):</p> <p>Compare animal digestive systems.</p> <p>Understand the basics of animal physiology.</p> <p>Understand how nutrients are used by animals.</p> <p>Identify classes and sources of nutrients.</p> <p>Identify symptoms of nutrient deficiencies.</p> <p>Explain the role of feed additives in livestock nutrition.</p> <p>Compare the composition of various feedstuffs</p> <p>Describe the domestication and history of small animals</p> <p>Determine the economic importance of the various classes of small animals.</p> <p>List the types and uses of the various classes of small animals.</p> <p>Describe the approved practices in feeding and caring for small animals</p>

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

<p>Performance Task(s): Define key terms Self-Evaluation</p> <p>Split the class into four small groups. Each group will research the daily nutrient requirements of a different domestic animal of their choosing. The</p>	<p>Other Evidence: Research project Exit ticket individual questioning & answers Quiz</p>
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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.

Stage 3: Learning Plan

<p><u>Learning Opportunities/Strategies:</u></p> <p>Demonstration Individual activities Pair-sharing Cooperative learning activities</p> <p>List as many nutrient requirements are need for optimum health of domestic animals</p> <p>Name one small animal and list 5 essential needs of that animal</p>	<p><u>Resources:</u></p> <p>Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> • 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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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
<p>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</p>	<p>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.</p>	<p>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.</p>	<p>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</p> <p>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</p>

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

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RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/ experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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.

Work Based Learning :

Virtual field trip

List major uses of livestock.

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Guest speaker from dairy farm	Understand basic approved practices in the care and management of dairy and livestock.
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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

<p><u>Performance Task(s):</u> Define key terms Self-Evaluation</p> <p>Create a bulletin board to display information within unit</p>	<p><u>Other Evidence:</u> Exit ticket individual questioning & answers Quiz Unit Assessment</p>
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Stage 3: Learning Plan

<p><u>Learning Opportunities/Strategies:</u></p> <p>Demonstration Individual activities Pair-sharing Cooperative learning activities</p> <p>List three types of livestock and five dairy products that you enjoy to eat</p>	<p><u>Resources:</u></p> <p>Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> ● 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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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	Varying sets of reading	Varying sets of reading	Any student requiring further accommodations and/or modifications

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p> <p>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</p>
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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

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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

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/ experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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

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		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.
<p><u>Central Idea / Enduring Understanding:</u></p> <p>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.</p> <p>There are many benefits to food processing such as increased food consistency and shelf life. Processing also improves the marketability, convenience, and reasonable availability of food.</p>		<p><u>Essential/Guiding Question</u></p> <p>How can we explore elements, trends, and career opportunities in the food industry?</p> <p>What are the nutrient requirements for human health and the processes used in food science to ensure an adequate and wholesome food supply?</p>
<p><u>Content:</u></p> <p>Food industry Government regulations of food Crop and animal production in world Food science careers</p> <p><u>Work Based Learning :</u> Virtual field trip food science careers</p>	<p><u>Skills(Objectives):</u></p> <p>Explain what is meant by the term food industry.</p> <p>Determine the importance of the food industry to the consumer.</p> <p>Describe the economic scope of the food industry.</p> <p>Identify government requirements and other assurances of food quality and sanitation.</p> <p>Compare the major crop and animal commodity production areas in the nation and the world.</p> <p>Discuss the major food commodity groups and their predominant origins.</p> <p>Explain the major operations that occur in the food industry.</p> <p>Describe career opportunities in food science.</p> <p>Discuss future developments predicted for the food industry.</p>	
<p><u>Interdisciplinary Connections:</u> 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.</p> <p>Agricultural education is delivered through three interconnected components:</p> <ul style="list-style-type: none"> ● 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

<p><u>Performance Task(s):</u> Define key terms Self-Evaluation</p> <p>Reflection paper on “Food Industry” video</p>	<p><u>Other Evidence:</u> Exit ticket individual questioning & answers Quiz Unit Assessment GMO persuasive essay</p>
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Stage 3: Learning Plan

<p><u>Learning Opportunities/Strategies:</u></p> <p>Demonstration Individual activities Pair-sharing Cooperative learning activities</p> <p>Identify government requirements and other assurances of food quality and sanitation; define GMO</p>	<p><u>Resources:</u></p> <p>Agriscience Fundamentals and Applications 4th edition; Burton and Cooper</p> <p>LGBT and Disabilities Resources:</p> <ul style="list-style-type: none"> • LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth • LGBTQ+ Books <p>DEI Resources:</p> <ul style="list-style-type: none"> • 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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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. An adaptive assessment that gets	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

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p>
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Unit Title: Marketing and Entrepreneurship in Agriscience (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

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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.

NJSLS for English Language Arts

RI.CI.11–12.2. Determine two or more central ideas of an informational text and analyze how they are developed and refined over the course of a text, including how they interact and build on one another to provide a complex account or analysis; provide an objective summary of the text.

W.IW.11–12.2. Write informative/explanatory texts (including the narration of historical events, scientific procedures/ experiments, or technical processes) to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Introduce a topic; 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 precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

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:

There are many strategies and procedures for marketing agricultural commodities to maximize profits.

Entrepreneurs are essential to economic development in the 21st century. An entrepreneurial mindset recognizes opportunity through curiosity, trends and

Essential/Guiding Question:

What are key components to creating an advertisement?

What are key components to consider when starting your own business?

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<p>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.</p>	
<p>Content:</p> <p>Marketing Strategies Wholesale and retail marketing Costs of marketing Marketing trends Entrepreneurship Self-employment Small business ventures</p>	<p>Skills(Objectives):</p> <p>Describe the marketing strategies that maximize profits.</p> <p>Describe various pricing strategies.</p> <p>Distinguish between wholesale and retail marketing.</p> <p>Describe some methods of marketing at farms, roadside stands, and farmers' markets.</p> <p>Discuss advantages and disadvantages of terminal markets, auctions, and direct marketing.</p> <p>Recognize fees, commissions, and other costs of marketing.</p> <p>Understand the grades of some popular agriscience commodities.</p> <p>Recognize marketing trends and cycles.</p> <p>Describe the use of futures in agriscience marketing.</p> <p>Define and describe entrepreneurship.</p> <p>Describe steps in planning a business venture.</p> <p>State five basic functions performed in the operation of a small business.</p> <p>Select a product or service for a personal or group enterprise.</p> <p>Determine the basic functions performed by small-business managers.</p> <p>Analyze the outcome of a business venture.</p> <p>Use small-business financial records.</p> <p>Analyze the benefits of self-employment versus other types of employment</p>
<p>Interdisciplinary Connections:</p> <p>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.</p> <p>Agricultural education is delivered through three interconnected components:</p>	

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- 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
Marketing and advertising for agricultural commodity project
Agribusiness project (individual or groups)

Other Evidence:

Exit ticket
individual questioning & answers
Quiz
Unit Assessment

Stage 3: Learning Plan

Learning Opportunities/Strategies:

Demonstration
Individual activities
Pair-sharing
Cooperative learning activities

List the procedures for handling livestock to minimize losses during marketing.

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
<p>Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student).</p> <p>A personalized course packet with individualized enrichment materials.</p> <p>An adaptive assessment that gets harder depending on</p>	<p>Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student).</p> <p>A personalized course packet with individualized remediation or enrichment materials.</p> <p>An adaptive assessment that gets easier or harder depending on how a student is performing.</p>	<p>Varying sets of reading comprehension questions to answer for a given chapter (either chosen by the teacher or student).</p> <p>A personalized course packet with individualized remediation or enrichment materials.</p> <p>An adaptive assessment that gets easier or harder depending on how a student is performing.</p>	<p>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</p>

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<p>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.</p>	<p>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.</p>	<p>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</p>	<p>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</p>
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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
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
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

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UNIT 4: (20 Days) The Food Industry & Food Science Marketing and 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