| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #1** |
| **Course/Subject:**<br>Large Animal Science/ Agriculture | **Grade:**<br>11-12 | **Nutrition and Digestive Systems** | **Suggested Timeline:**<br>2 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Nutrition and Digestive Systems |
| **Unit Summary** | Students will learn about nutrient groups that are required to grow and produce efficiently. Students will gain knowledge of different kinds of digestive systems in order to select proper livestock feeds. Students will learn the chemical and physical changes that take place after feed is consumed to learn how to efficiently feed livestock. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What are the major components of animal diets?<br>2. What are the general principles in animal nutrition?<br>3. How do you create a complete and balanced diet for different animal species? | 1. Nutrient Groups<br>2. Ruminant and Non Ruminant Digestive systems<br>3. Animals Feeds<br>4. Nutrition Requirements |

**Focus Standards Addressed in the Unit:**

| ***Standard Number*** | *Standard Description* |
|---|---|
| **AS.04.01.01.a.** | Compare and contrast common types of feedstuffs and the roles they play in the diets of animals. |
| **AS.04.01.01.b.** | Determine the relative nutritional value of feedstuffs by evaluating their general quality and condition. |
| **AS.04.01.01.c.** | Select appropriate feedstuffs for animals based on factors such as economics, digestive system and nutritional needs. |

| | |
|---|---|
| **AS.04.01.02.a.** | Explain the importance of a balanced ration for animals. |

| **Important Standards Addressed in the Unit:** | |
|---|---|
| **AS.02.02.01.b.** | Compare and contrast animal cells, tissues, organs and body systems. |
| **AS.04.01.02.c.** | Formulate animal feeds based on nutritional requirements, using feed ingredients for maximum nutrition and optimal economic production. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. Quantity is more important than quality.<br>2. Diet requirements do not change. | 1. Quality of feed is more important than quantity.<br>2. Diet requirements can range greatly per individual animals. |

| **Knowledge & Concepts** | **Skills & Competencies** | **Dispositions & Practices** |
|---|---|---|
| ● Nutrient Groups<br>● Differences in digestive systems<br>● Importance of a balanced ration. | ● Develop a feed ration<br>● Calculate proper ratios in feed stuffs | ● Learning to Learn |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Digestion | ● Rumination | ● Villi |
| ● Absorption | ● Chewing the Cud | ● Crop |
| ● Ruminants | ● Cardia | ● Cloaca |
| ● Non Ruminants | ● Bacteria | ● Metabolism |
| ● Digestive System | ● Protozoa | ● Chyme |
| ● Concentrates | ● Amino Acids | ● Enzymes |
| ● Roughages | ● True Stomach | |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Science- anatomy, nutrition

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #2** |
| **Course/Subject:**<br>Large Animal Science/ Agriculture | **Grade:**<br>11-12 | **Careers in the Agricultural Animal Industry** | **Suggested Timeline:**<br>2 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Careers in the Agricultural Animal Industry |
| **Unit Summary** | Students will learn the value of an agricultural background to enter a livestock related occupation. Students with gain a knowledge of a wide range of large animal related career opportunities and the duties and requirements of those occupations. Students will also learn about the process of choosing an occupation and applying for a position. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What skills do you need to be employed in animal agriculture?<br>2. What career opportunities exist in large animal industry?<br>3. What advanced training and/or postsecondary education options exists within the career field? | 1. Large Animal Science Career Exploration<br>2. Employability Skills<br>3. Resume Writing |

**Focus Standards Addressed in the Unit:**

| ***Standard Number*** | *Standard Description* |
|---|---|
| **CRP.10.01.** | Identify career opportunities within a career cluster that match personal interests, talents, goals and preferences. |
| **CRP.10.02.** | Examine career advancement requirements (e.g., education, certification, training, etc.) and create goals for continuous growth in a chosen career. |
| **CRP.10.03.** | Develop relationships with and assimilate input and/or advice from experts (e.g., counselors, mentors, etc.) to plan career and personal goals in a chosen career area. |

| | |
|---|---|
| **CRP.10.04.** | Identify, prepare, update and improve the tools and skills necessary to pursue a chosen career path. |

| **Important Standards Addressed in the Unit:** | |
|---|---|
| **CRP.04.** | Communicate clearly, effectively and with reason. |
| **CRP.07.** | Employ valid and reliable research strategies. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. If you want to work with animals you must become a veterinarian or a veterinarian technician. | 1. There are a wide range of jobs available in the animal industry that do not include working in a veterinary practice. |

| **Knowledge & Concepts** | **Skills & Competencies** | **Dispositions & Practices** |
|---|---|---|
| ● Opportunities in the Large Animal Industry.<br>● Salaries, nature of work, and requirements to obtain specific jobs. | ● Job Skills<br>● Employability Skills | ● Responsibility |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Occupational briefs<br>● Nature of work<br>● Personality<br>● Flexibility | ● Previous Experience<br>● Physical makeup<br>● Ability | ● Attitudes<br>● Educational Aspirations<br>● Interests |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- English

**Additional Resources:**

- *Modern Livestock and Poultry Production* by James R. Gillespie
- Power Points
- Note packets

- Small Animal Room

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #3** |
| **Course/Subject:**<br>Large Animal Science / Agriculture | **Grade:**<br>11-12 | **Beef Industry** | **Suggested Timeline:**<br>3 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Beef Industry |
| **Unit Summary** | During this unit, students will learn a variety of beef cattle breeds common to the United States and production in York County. Students will learn about best management practices in different beef cattle operation styles that are acceptable in the American Beef Industry. Students will train in Beef Quality Assurance and learn to give injections. Students will learn about aspects of beef production and marketing. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What are the characteristics of the beef industry?<br>2. What are the different types of beef production systems?<br>3. How do you select superior animals?<br>4. What are the approved practices for managing a cow- calf herd?<br>5. What are the approved practices for managing feeder cattle operations?<br>6. Why is it important to maintain healthy beef cattle?<br>7. How does the supply and demand for beef cattle affect marketing practices?<br>8. How are the facilities and equipment required for beef operations used efficiently? | 1. Breeds of Beef Cattle<br>2. Selection and Judging of Beef<br>3. Feeding and Management of the Cow- Calf Herd<br>4. Feeding and Management of Feeder Cattle<br>5. Diseases and Parasites of Beef Cattle<br>6. Beef Housing and Equipment<br>7. Marketing Beef |

| **Focus Standards Addressed in the Unit:** | |
|---|---|
| ***Standard Number*** | *Standard Description* |
| AS.01. | Analyze historic and current trends impacting the animal systems industry. |
| AS.02. | Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. |
| AS.03. | Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. |
| AS.04. | Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. |

| **Important Standards Addressed in the Unit:** | |
|---|---|
| **AS.05.** | Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. |
| **AS.06.** | Classify, evaluate and select animals based on anatomical and physiological characteristics. |
| **AS.07.** | Apply principles of effective animal health care. |
| **AS.08.** | Analyze environmental factors associated with animal production. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. Only old dairy cattle become meat.<br>2. Only males are sold for meat. | 1. There are specific breeds raised for Beef Production.<br>2. Both Males and Females are used. |

| **Knowledge & Concepts** | **Skills & Competencies** | **Dispositions & Practices** |
|---|---|---|
| ● Breeds of Cattle<br>● Diseases of Cattle<br>● Feeding and Management of Cattle | ● Beef Quality Assurance Training<br>● Beef Handling<br>● Injections | ● Ethical Judgment<br>● Responsibility |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Foundation Breeds<br>● Cow-calf system<br>● Feeder Calves<br>● Yearling Feeder<br>● Frame Score<br>● Conformation<br>● Ultrasonics<br>● Condition<br>● Supply<br>● Commission | ● Production Testing<br>● Progeny testing<br>● Performance testing<br>● Brood animal<br>● Pedigree<br>● Expected Progeny Difference<br>● Finish<br>● Carcass Merit<br>● Terminal Market<br>● Contract Sales | ● Finish<br>● Roughages<br>● Husklage<br>● Creep Feeding<br>● Artificial Insemination<br>● Castration<br>● Backgrounding<br>● Feedlot<br>● Confinement<br>● Cattle Dealer |

**Assessments:**

- Quizzes
- Test
- Projects

- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Math- dosage calculations

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #4** |
| **Course/Subject:**<br>Large Animal Science / Agriculture | **Grade:**<br>11-12 | **Dairy Industry** | **Suggested Timeline:**<br>2 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Dairy Industry |
| **Unit Summary** | During this unit, students will learn a variety of dairy cattle breeds common to the United States and used in production in Pennsylvania. Students will learn about best management practices in different dairy cattle operations that are acceptable in the American Dairy Industry. Students will learn about aspects of dairy production and marketing. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What are the characteristics of a dairy cattle enterprise?<br>2. How do you select desirable breeding and production animals?<br>3. What are appropriate rations for a dairy cow to maximize production?<br>4. What records are important when managing a dairy herd?<br>5. What are the recommending milking practices?<br>6. What are common health problems in dairy herds?<br>7. What is adequate and economical housing for dairy herds?<br>8. What are the price, supply, and demand trends for milk and dairy products? | 1. Breeds of Dairy Cattle<br>2. Selecting and Judging Dairy Cattle<br>3. Feeding Dairy Cattle<br>4. Management of the Dairy Herd<br>5. Milking Management<br>6. Dairy Herd Health<br>7. Dairy Housing and Equipment<br>8. Marketing Milk |

| Focus Standards Addressed in the Unit: | |
|---|---|
| ***Standard Number*** | *Standard Description* |
| **AS.01.** | Analyze historic and current trends impacting the animal systems industry. |
| **AS.02.** | Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. |
| **AS.03.** | Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. |
| **AS.04.** | Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. |

| Important Standards Addressed in the Unit: | |
|---|---|
| **AS.05.** | Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. |
| **AS.06.** | Classify, evaluate and select animals based on anatomical and physiological characteristics. |
| **AS.07.** | Apply principles of effective animal health care. |
| **AS.08.** | Analyze environmental factors associated with animal production. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. All cows produce milk. | 1. Only female cattle that have given birth will produce milk. |

| Knowledge & Concepts | Skills & Competencies | Dispositions & Practices |
|---|---|---|
| ● Name and describe breeds of dairy cattle<br>● Desirable breeding and production animals<br>● Calculate feed rations for animals<br>● Set goals for a dairy farm<br>● Manage dry cows<br>● Describe the use of records<br>● Function of the mammary system<br>● Milk handling<br>● Manure handling<br>● Milk and Cheese flavors | ● Identify breeds of dairy cattle by viewing pictures<br>● Identify the parts of a dairy animal<br>● Judge a dairy animal<br>● Select appropriate feeds for dairy animals<br>● Cleaning and Sanitizing<br>● Best Milking Practices | ● Ethical Judgment<br>● Learning to learn |

| Academic Vocabulary: | | |
|---|---|---|
| ● Registered<br>● Grade<br>● Type<br>● Linear Classification<br>● Lead Feeding<br>● Silage<br>● Body condition score<br>● Colostrum | ● Lactation<br>● Heat mount<br>● Chin-ball marketing<br>● Oxytocin<br>● Free Stall Barn<br>● Stachion<br>● Milking Parlor<br>● Pulsation System | ● Vacuum supply system<br>● Milk flow system<br>● Unit filters<br>● In-line suction filters<br>● In-line pressure filters<br>● Gravity filters<br>● Imports<br>● Exports |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Math- feed rations

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #5** |
| **Course/Subject:**<br>Large Animal Science / Agriculture | **Grade:**<br>11-12 | **Poultry Industry** | **Suggested Timeline:**<br>2 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Poultry Industry |
| **Unit Summary** | During this unit, students will learn a variety of poultry breeds common to the United States and production in York County. Students will learn about best management practices in different poultry in the American poultry industry. Students will learn about aspects of poultry production and marketing. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What are common breeds of poultry?<br>2. What types of housing and equipment are required for various poultry enterprises?<br>3. What type of heard management plan should be used in poultry?<br>4. What are the production and price trends of eggs and poultry? | 1. Selection of Poultry<br>2. Feeding, Management, Housing, and Equipment<br>3. Diseases and Parasites of Poultry<br>4. Marketing Poultry and Eggs |

**Focus Standards Addressed in the Unit:**

| ***Standard Number*** | *Standard Description* |
|---|---|
| **AS.01.** | Analyze historic and current trends impacting the animal systems industry. |
| **AS.02.** | Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. |

| | |
|---|---|
| **AS.03.** | Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. |
| **AS.04.** | Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. |

| **Important Standards Addressed in the Unit:** | |
|---|---|
| **AS.05.** | Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. |
| **AS.06.** | Classify, evaluate and select animals based on anatomical and physiological characteristics. |
| **AS.07.** | Apply principles of effective animal health care. |
| **AS.08.** | Analyze environmental factors associated with animal production. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. All chickens lay eggs | 1. Only mature female chickens lay eggs. |

| **Knowledge & Concepts** | **Skills & Competencies** | **Dispositions & Practices** |
|---|---|---|
| ● Poultry Breeds<br>● Poultry Diseases<br>● Poultry care and management | ● Harvesting poultry and eggs<br>● Breaking down a poultry carcass into retail cuts.<br>● Feeding and care of chickens | ● Ethical Judgment<br>● Critical Thinking |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Egg Type | ● Sexed Chicks | ● Grit |
| ● Meat Type | ● Culling | ● Mash |
| ● Inbred | ● Molting | ● Pellets |
| ● Cross mating | ● Axial Feather | ● Crumble |
| ● Pinfeather | ● Trapnest | ● Phase feeding |
| ● Straight run | ● Feeding Efficiency | ● Broiler |
| ● USDA Grade | ● Candling | ● Capon |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Culinary- Poultry Breakdown
- Math- Feed Measurements

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #6** |
| **Course/Subject:**<br>Large Animal Science / Agriculture | **Grade:**<br>11-12 | **Sheep Industry** | **Suggested Timeline:**<br>2 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Unit #1: Nutrition and Digestive Systems<br>Unit #2: Careers in the Agricultural Animal Industry<br>Unit #3: Beef Industry<br>Unit #4: Dairy Industry<br>Unit #5: Poultry Industry<br>Unit #6: Sheep Industry<br>Unit #7: Swine Industry |

| | |
|---|---|
| **Unit Title** | Sheep Industry |
| **Unit Summary** | During this unit, students will learn a variety of sheep breeds common to the United States and production in Pennsylvania. Students will learn about best management practices in different sheep production operations. This unit will also cover marketing of wool and other sheep products. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What characteristics make an animal high quality breeding stock?<br>2. What types of systems are used to raise sheep?<br>3. How can a producer reduce losses from diseases and parasites?<br>4. How are products from sheep marketed and used? | 1. Selection of Sheep<br>2. Feeding, Management, and Housing of Sheep<br>3. Diseases and Parasites of Sheep<br>4. Marketing Sheep, Wool, and Mohair. |

**Focus Standards Addressed in the Unit:**

| ***Standard Number*** | *Standard Description* |
|---|---|
| **AS.01.** | Analyze historic and current trends impacting the animal systems industry. |
| **AS.02.** | Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. |
| **AS.03.** | Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. |

| | |
|---|---|
| **AS.04.** | Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. |

| **Important Standards Addressed in the Unit:** | |
|---|---|
| **AS.05.** | Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. |
| **AS.06.** | Classify, evaluate and select animals based on anatomical and physiological characteristics. |
| **AS.07.** | Apply principles of effective animal health care. |
| **AS.08.** | Analyze environmental factors associated with animal production. |

| **Misconceptions:** | **Proper Conceptions:** |
|---|---|
| 1. To shear a sheep, you cause injury or death. | 1. Shearing sheep does not cause death or injury. |

| **Knowledge & Concepts** | **Skills & Competencies** | **Dispositions & Practices** |
|---|---|---|
| ● Identify sheep breeds<br>● Identify disease and parasites of sheep<br>● Grades of wool<br>● Methods of marketing sheep and wool<br>● Systems of raising sheep and feeding sheep. | ● Select high quality animals for breeding, meat, and wool.<br>● Proper handling and restraint of sheep<br>● Hoof trimming<br>● Shearing | ● Ethical Judgment<br>● Learning to learn |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Banding<br>● Flocking<br>● Ewes<br>● Pelt | ● Tagging<br>● Grease Wool<br>● Shrinkage | ● Accelerated Lambing<br>● Ram<br>● Docking |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Math

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers

| | | | |
|---|---|---|---|
| | | | **Large Animal Science Grades 11-12**<br><br>**Unit #7** |
| **Course/Subject:**<br>Large Animal Science / Agriculture | **Grade:**<br>11-12 | **Swine Industry** | **Suggested Timeline:**<br>4 weeks |

| | |
|---|---|
| **Grade Level Summary** | This course will focus on the science behind the care and management of agricultural animal species. Students will study the classification and naming of key livestock species, such as, beef, dairy, poultry, sheep, and swine used in agriculture and in everyday life. Basic anatomy, reproduction, nutrition, health care, and related careers will be examined throughout the course. Students will also become familiar with animal-based industries in York County and Pennsylvania. Lab exercises and projects will allow students to gain experience by formulating feed rations, as well as diagnosis, treatment, and prevention of diseases and conditions through the prescription of medications and treatments. |
| **Grade Level Units** | Nutrition and Digestive Systems, Careers in the Agricultural Animal Industry, Beef Industry, Dairy Industry, Poultry Industry, Sheep Industry, and Swine Industry |

| | |
|---|---|
| **Unit Title** | Swine Industry |
| **Unit Summary** | During this unit, students will learn a variety of swine breeds common to the United States and production in York County. Students will learn about best management practices in different swine operations in America as well as be training in Pork Quality Assurance. Students will learn about aspects of pork production and marketing. |

| **Unit Essential Questions:** | **Key Understandings:** |
|---|---|
| 1. What are the major breeds of swine used in the United States?<br>2. What are the best production practices used in the swine industry?<br>3. How can you prevent loss from disease and parasites of swine?<br>4. What housing methods are appropriate for different swine operations?<br>5. What are the best methods in marketing pork products? | 1. Breeds of Swine<br>2. Pork Quality Assurance<br>3. Feeding and Management of Swine<br>4. Diseases and Parasites of Swine<br>5. Swine Housing and Equipment<br>6. Marketing Swine |

| **Focus Standards Addressed in the Unit:** | |
|---|---|
| ***Standard Number*** | *Standard Description* |
| **AS.01.** | Analyze historic and current trends impacting the animal systems industry. |
| **AS.02.** | Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. |
| **AS.03.** | Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. |
| **AS.04.** | Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. |

| Important Standards Addressed in the Unit: | |
|---|---|
| **AS.05.** | Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. |
| **AS.06.** | Classify, evaluate and select animals based on anatomical and physiological characteristics. |
| **AS.07.** | Apply principles of effective animal health care. |
| **AS.08.** | Analyze environmental factors associated with animal production. |

| Misconceptions: | Proper Conceptions: |
|---|---|
| 1. Pigs are very dirty animals. | 1. Pigs are clean animals, only using mud to stay cool due to the fact that they cannot sweat. |

| Knowledge & Concepts | Skills & Competencies | Dispositions & Practices |
|---|---|---|
| ● Identify breeds of pigs from photographs.<br>● Identify swine operation types<br>● Grain identification<br>● Breeding and farrowing pigs | ● Injections<br>● Proper feeding and handling<br>● Select animal for breeding stock<br>● Select animals for terminal market<br>● PQ A Training | ● Ethical Judgment<br>● Critical Thinking |

**Academic Vocabulary:**

| | | |
|---|---|---|
| ● Crossbreeding | ● Nursery | ● Farrow |
| ● Loin | ● Feeder | ● Barrow |
| ● Boston Butt | ● Grower | ● Gilt |
| ● Estimated Breeding Value | ● Boar | ● Parturition |
| ● Seedstock | ● Sow | |

**Assessments:**

- Quizzes
- Test
- Projects
- Class participation and practices

**Differentiation:**

- Book work
- Lecture
- Demonstrations
- Video clips
- Hands on learning
- IEP accommodations

**Interdisciplinary Connections:**

- Math
- Biology

**Additional Resources:**

- *Modern Livestock and Poultry 6th Edition* by James R. Gillespie
- Power Points
- Note packets

**Created By:** Meagan Smyers