
ANIMAL, PLANT, AND SOIL SCIENCE LESSON PLAN LIBRARY

UNIT A: RESEARCH

1. Scientific Investigation in Agriculture

Lesson 1—Research in Agriculture

Lesson 2—Conducting Agricultural Research

Lesson 3—Reporting Agricultural Research

Lesson 4—Using Scientific Measurement

UNIT B: ANIMAL SCIENCE AND THE INDUSTRY

1. Understanding the Animal Science Industry

Lesson 1—Analyzing Present and Future Trends in the Animal Science Industry

Lesson 2—Discovering Ways Animals Help People

Lesson 3—Identifying Career Opportunities in the Animal Science Industry

2. Identifying and Understanding the Segments of the Animal Science Industry

Lesson 1—Exploring the Beef Industry

Lesson 2—Exploring the Dairy Industry

Lesson 3—Exploring the Swine Industry

Lesson 4—Exploring the Sheep and Goat Industry

Lesson 5—Exploring the Equine Industry

Lesson 6—Exploring the Poultry Industry

Lesson 7—Exploring the Rabbit Industry

Lesson 8—Exploring the Cat Industry

Lesson 9—Exploring the Dog Industry

Lesson 10—Exploring the Exotic Breeds Industry

Lesson 11—Exploring the Scientific and Laboratory Animals Industry

Lesson 12—Exploring the Aquaculture Industry

Lesson 13—Exploring the Service and Safety Animals Industry

Lesson 14—Exploring Other Animals

Lesson 15—Exploring the Bee Industry

3. Meeting Nutritional Needs of Animals

Lesson 1—Meeting the Nutritional Needs of Animals

Lesson 2—Understanding Animal Digestion

Lesson 3—Understanding Nutrients and Their Importance

Lesson 4—Balancing Rations

4. Understanding Animal Reproduction and Biotechnology

Lesson 1—Anatomy and Physiology of Animal Reproductive Systems

Lesson 2—Understanding Natural Animal Reproduction

Lesson 3—Understanding Animal Reproduction Technology

Lesson 4—Understanding Genetics

Lesson 5—Understanding Molecular Biotechnology

Lesson 6—Understanding Organismic Biotechnology

5. Maintaining Animal Health

Lesson 1—Managing Diseases and Parasites

Lesson 2—Managing Animal Health

Lesson 3—Identifying Equipment Used to Maintain Good Animal Health

6. Meeting Environmental Requirements of Animals

Lesson 1—Determining Livestock Facility Needs

Lesson 2—Managing Livestock Waste

Lesson 3—Understanding Animal Welfare Issues

7. Understanding Animal Production

Lesson 1—Understanding Supply and Demand Concepts

Lesson 2—Understanding Futures Contracts and Governmental Programs

8. Understanding Related Issues

Lesson 1—Training and Conditioning

Lesson 2—Consumer Preferences

UNIT C: PLANT AND SOIL SCIENCE

1. Career Opportunities in Plant and Soil Science

Lesson 1—Recognizing the Importance of Plant and Soil Science

Lesson 2—Exploring Careers in Plant and Soil Science

2. Basic Principles of Plant Science

Lesson 1—Classifying and Naming Plants

Lesson 2—Examining Plant Structures and Functions

Lesson 3—Examining Flowers and Fruits

Lesson 4—Identifying Plant Types and Uses

Lesson 5—Using Crossbreeding and Hybrids

3. Seed Germination, Growth, and Development

Lesson 1—Identifying Seed Germination Processes and Requirements

Lesson 2—Understanding Plant Life Cycles

Lesson 3—Examining Photosynthesis

Lesson 4—Understanding Respiration

Lesson 5—Examining the Roles of Plant Growth Regulators

Lesson 6—Determining Nutrient Functions and Utilization

4. Environmental Factors Effecting Plant Growth

Lesson 1—Understanding the Importance of Water in Plant Growth

Lesson 2—Determining the Influence of Temperature on Plants

Lesson 3—Recognizing the Role of Light in Plant Growth

Lesson 4—Examining the Significance of Air in Plant Growth

Lesson 5—Determining Plant Nutrients and Fertility

Lesson 6—Determining the Environmental Impacts of Crop Production

5. Plant Propagation

Lesson 1—Propagating Plants Sexually

Lesson 2—Propagating Plants Asexually

Lesson 3—Propagating Plants by Tissue Culture

6. Basic Principles of Soil Science

Lesson 1—Determining the Nature of Soil

Lesson 2—Understanding Soil Formation

Lesson 3—Understanding Soil Color

Lesson 4—Understanding Soil Texture and Structure

Lesson 5—Explaining a Soil Profile

Lesson 6—Understanding Moisture-Holding Capacity

Lesson 7—Understanding Soil Degradation

Lesson 8—Understanding Soil Erosion and Management Practices

7. Soil Erosion and Land Management

Lesson 1—Identifying Environmental and Economic Impacts from Soil Erosion

Lesson 2—Using Land Capability Classifications

Lesson 3—Calculating Soil Loss

Lesson 4—Employing Conservation Tillage Practices

8. Soil Fertility and Moisture Management

Lesson 1—Understanding Soil Chemistry

Lesson 2—Determining Fertilizer Formulations

Lesson 3—Applying Fertilizers to Field Crops

Lesson 4—Identifying Nutrient Deficiencies in Crops

Lesson 5—Using Irrigation

9. Agronomic Crops

Lesson 1—Growing Field Corn

Lesson 2—Growing Soybeans

Lesson 3—Growing Wheat

Lesson 4—Growing Sorghum

Lesson 5—Growing Oats

Lesson 6—Growing Forage Crops

Lesson 7—Identifying Specialty Crops and Their Value

10. Integrated Pest Management

Lesson 1—Understanding Integrated Pest Management (IPM)

Lesson 2—Setting up a Crop Scouting Program

Lesson 3—Managing Crop Diseases

Lesson 4—Managing Weeds

Lesson 5—Managing Insect Pests

11. Pesticide Use

Lesson 1—Managing Plant Pests

Lesson 2—Determining the Kinds of Pesticides

Lesson 3—Using Pesticides Safely

Lesson 4—Interpreting Pesticide Labels

Lesson 5—Applying Pesticides

Lesson 6—Managing Environmental Impact of Pesticides

Lesson 7—Obtaining Pesticide Licensing

12. Grain and Forage Quality

Lesson 1—Determining Grain and Forage Quality

Lesson 2—Understanding Grain Quality Standards and the Market

Lesson 3—Handling, Storing, and Transporting Grain and Forage

UNIT D: EMPLOYABILITY IN THE AGRICULTURE INDUSTRY

1. Developing Personal Skills

Lesson 1—Self-Understanding and Assessment

Lesson 2—Developing Human Relations Skills in the Workplace

2. Developing Communication Skills

Lesson 1—Introduction to Communication

Lesson 2—Understanding Effective Communication Techniques

Lesson 3—Identifying Effective Speaking Techniques

Lesson 4—Developing Listening Techniques

Lesson 5—Organizing and Presenting a Persuasive Message

Lesson 6—Using Communication Skills in Appropriate Situations

3. Gaining Employment

Lesson 1—Developing Goals

Lesson 2—Obtaining Education for a Job

Lesson 3—Identifying Occupational Competencies

Lesson 4—Finding a Job

Lesson 5—Applying for a Job

Lesson 6—Writing a Résumé and Letter of Application

Lesson 7—Succeeding in a Job Interview

Lesson 8—Understanding Conflicts and Their Resolution

UNIT E: DEVELOPING LEADERSHIP SKILLS IN AGRICULTURE

1. Understanding the History and Organization of FFA

Lesson 1—Exploring the History and Organization of FFA

2. Recognizing Opportunities in FFA

Lesson 1—Discovering Opportunities in the FFA

Lesson 2—Determining FFA Degrees, Awards, and CDEs

3. Developing Leadership Skills

Lesson 1—Understanding FFA Officer Duties and Responsibilities

Lesson 2—Planning and Organizing an FFA Meeting

4. Participating in Community and Government Organizations

Lesson 1—Understanding Youth Clubs and Organizations

Lesson 2—Developing an Awareness for Your Community

UNIT F: SUPERVISED EXPERIENCE IN AGRICULTURE

1. Determining Purposes and Procedures of SAE

Lesson 1—Determining the Benefits of an SAE

Lesson 2—Determining the Kinds of SAE

2. Planning and Developing SAE Programs

Lesson 1—Researching Possible SAE Programs

Lesson 2—Planning Your SAE Program

Lesson 3—Implementing SAE Programs

3. Expanding My SAE

Lesson 1—Keeping and Using SAE Records

Lesson 2—Making Long Range Plans for Expanding SAE Programs