

## Arkansas 4-H Project Categories and Objectives

Revised November 2011

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### **STRENGTHENING FAMILIES**

**FAMILY LIFE** (Previously known as Child Development) – The Family Life project increases the knowledge and skills gained regarding family issues such as care of young children, working with older adults, preparing for marriage, and relating to others.

Acquire knowledge about preschool children and how they grow and develop.

Acquire knowledge of appropriate parenting practices by caring for small children.

Adopt and apply latest practices to become responsible babysitters. Learn communication skills of listening, sharing and interacting with others, preparing them for future relationships.

To develop an awareness and be sensitive to problems and needs of individuals during different stages of the life cycle.

Learn and apply appropriate practices to create a safe home and community environment.

Explore career and job opportunities related to child development.

### **EXTENDING RESOURCES**

**FABRICS AND FASHIONS** – Fashion and Fabrics projects will include activities that teach participants skills to select fabrics construct, purchase, model and care for clothing, which will improve self-confidence and poise.

To improve self-confidence and poise by learning to make the most of one's personal attributes.

To learn proper clothing care practices and develop maintenance skills.

To learn basic principles of wardrobe planning and coordination.

To learn textile fiber and fabric terminology.

To study textiles with emphasis on selection, use, performance and care.

To study fashion with emphasis on fashion innovation, trends, product categories, marketing and advertising.

To learn skills needed to construct and repair clothing, accessories and items for the home.

To learn how to use equipment related to clothing construction and care.

Develop consumer skills used in selection of quality clothing.

To explore clothing and textiles job and career opportunities.

Develop good posture and grooming habits.

Acquire knowledge and skills in planning, presenting and participating in fashion revues and modeling activities.

**CONSUMER EDUCATION** – The Consumer Education project will include activities that teach participants to make wise decisions when shopping. It will focus on the economy, money management, consumer rights and responsibilities, and the environment.

To understand how personal values, goals and available resources affect consumer behavior.

To learn how to develop a simple plan for spending.

To understand basic consumer rights and responsibilities.

To develop an awareness of skills needed to make wise purchasing decisions.

To identify consumer protection laws, consumer protection agencies, and consumer organizations, how they work and the purpose they serve.

To develop an awareness for borrowing, saving and investment options and how they work.

To identify advantages and disadvantages of credit use and an understanding of credit contracts.

To develop an awareness of vocational and career opportunities in financial management.

**HOUSING AND HOME ENVIRONMENT** – Housing and Home Environment project teaches and applies principles of design and function to make the home more attractive, safe, comfortable and affordable for all family members.

To learn and apply principles of design and function to make the home more attractive, convenient and comfortable within the family's resources.

To be able to plan home living spaces in keeping within the needs for family members and experience satisfaction from a home that expresses personal creativity and family life-style.

To learn the importance of efficient energy usage and environmental practices as they relate to housing, home equipment, waste management and indoor air quality.

To develop an awareness of the special design requirements needed in housing and environment for the elderly and special needs individuals.

To learn about the care and preservation of old and new housing, furnishings and accessories.

To develop skills through quality workmanship for making changes in the home.

To be aware of community housing situations, opportunities and responsibilities.

To develop an awareness of and explore the variety of job and career opportunities in housing and environment.

## **ENHANCE HEALTH and WELL-BEING**

**FOODS AND NUTRITION/ FOOD PREPARATION OBJECTIVES** – Foods and Nutrition project will be involved in activities that will help participants learn to make healthy food choices to reduce disease and illness risks. Learning experiences are centered around nutrition, menu planning, food buying, preparation techniques and food safety, careers and cultural influences.

To learn the importance of foods from each of the food groups in the daily diet.

To understand the principals of nutrition as they relate to health, physical fitness and appearance.

To learn about the wide variety of foods that may be included in the diet and the cultural influences of such food.

To learn the nutritional contributions and the importance of enrichment and fortification.

To understand the scientific principles of nutrition.

To acquire and demonstrate skills in planning, purchasing, preparing and serving tasty, attractive and nutritious meals and snacks.

To learn ways to maximize the retention of nutrients through proper food preparation methods.

To learn food safety procedures to lower the risk of food-borne illness.

To practice proper storage, handling and preparation of foods.

To explore job and career opportunities in foods and nutrition fields, such as food science or baking science.

**FOOD PRESERVATION AND SAFETY** – Will include applying knowledge and skill of safe food preservation methods and safe food handling practices.

To appreciate food as a resource to be wisely by all persons avoiding food waste and maintaining the wholesomeness of food.

To learn to apply scientific principles of safe food handling to prevent food-borne illness, both at home and away.

To learn ways to maximize the retention of nutrients through proper food preservation methods.

To acquire scientific knowledge and skills essential to the successful preservation of food by canning, freezing, pickling, drying and making jellies and jams.

To become aware of how government and industry regulations help to assure a safe food supply.

To explore job and career opportunities in the food science field.

HEALTH AND FITNESS – The Health and Fitness project will include activities that will increase knowledge through participation in workshops, seminars, and activities which promote healthy bodies and build self-esteem.

To accept responsibility for maintaining and improving their physical, intellectual, emotional and social health.

To learn about and share the dangers of tobacco, alcohol and illegal drugs.

To develop an awareness and be sensitive to problems and needs of individuals during different stages of the life cycle.

To identify and learn about agencies that provide community health services to various age groups with varying needs and assist in spreading the word of their services.

To understand and educate others on the principles of nutrition and exercise as they relate to health, appearance, lifelong fitness and wellness.

To select appropriate foods according to nutrient, fat and calorie content to balance daily physical activities.

To discover career opportunities involving nutrition and physical education in the health field/industry.

To provide leadership for others in the community to learn and apply knowledge lifestyle practices which develop healthy bodies and minds.

SAFETY OBJECTIVES – The Safety project helps youth reduce accidents and injuries by recognizing and correcting safety hazards in their daily lives such as all-terrain vehicle (ATV), fire, farm, home and recreation.

To learn how to reduce accidents and injuries, recognize and correct hazards, and think and practice safety in everyday life.

To encourage the entire family to become safety conscious.

To learn how safety can be applied to any 4-H program or project.

To explore career and job opportunities involving safety.

To develop leadership abilities, build character and assume citizenship responsibilities.

BICYCLE – The Bicycle project helps youth develop basic bicycle handling and traffic skills, and proper equipment selection and use and maintenance.

To create an awareness of the recreational, family and health applications of cycling.

To learn and obey rules of the road and laws pertaining to bicycle driving.

To develop a clear knowledge of bicycle safety and proper bicycle driving behavior.

To learn care and maintenance of the bicycle and how to select a bicycle that best fits the size and need of the driver.

To demonstrate skills for effective use of the bicycle.  
To explore job and career opportunities.

## **ENCOURAGE INDIVIDUAL DEVELOPMENT**

**ACHIEVEMENT** – Attain a broad knowledge of 4-H projects and activities and contribute to improving family and community living to become a skilled, productive and self-directing individual.

To obtain a broad knowledge in multiple project areas of choice.  
Adopt and apply the latest practices and research findings to everyday living.

Communicates character, ethics, high moral character.

Apply all 4-H training and experience in choosing and preparing for a vocation.

Explore job and career opportunities in chosen project areas.

**ARTS AND HUMANITIES** – To develop an appreciation and acquire skills in the performing and visual arts and relate to their history and culture.

To learn and apply the elements and principles of design.

Develop an awareness of the environment and appreciate its beauty.

Develop an appreciation for the performing arts.

Develop an understanding of the visual arts in relation to history and culture.

Acquire skills in using the mind and hands to produce something useful or an appreciated art object.

Learn constructive use for leisure time.

Explore career and job opportunities in the arts and humanities field.

**CITIZENSHIP** – The citizenship project involves doing your part, following rules, serving your community, knowing how to make a difference—these are the qualities of good citizens. Through this project, 4-H'ers will become well informed, productive members of society.

Become aware of their relationship to others: family, peers, state, nation and world.

Acquire life skills that are essential for an individual to become an active, responsible citizen.

Demonstrate social responsibility. Learn to respect and respond to the needs, rights and responsibilities of others.

Contribute to community development through service learning projects.

Gain insights into the principles, processes and structures of democracy.

Learn how issues affect the people of the world and affect us as a nation. Learn how to become involved in addressing those issues.

Explore career, job and productive leisure opportunities.

**LEADERSHIP** – The leadership project helps young people learn and practice the leadership life skills of communication, decision-making, teamwork, understanding yourself, responsibility, management and learning. Learning and practicing leadership life skills is also a part of every 4-H project.

Identify and understand roles, attitudes, tasks and functions necessary for effective leadership.

Be able to apply leadership skills to life experiences.

Develop and strengthen personal leadership skills.

Strengthen local 4-H units by becoming involved in leadership responsibilities and encouraging other youth to do so.

Actively participate in program planning, development and implementation, and to help recruit new members and leaders.

Explore career and job opportunities.

**COMMUNICATION** – Youth will enhance their understanding of different modes of communication and strengthen their communication skills.

Recognize the need for obtaining pertinent information on a given topic.

Learn about organization of materials to be presented in a spoken or written format.

Develop a pleasing personal appearance before an audience.

Acquire the ability to write or speak convincingly.

Explore career and job opportunities related to oral or written communication.

**PHOTOGRAPHY** – The photography project encourages self-expression and teaches proper use of photographic equipment and developing processes. Photography provides opportunities for career exploration and promoting 4-H.

Recognize photography as a useful hobby and as a profession.

Learn to observe and appreciate surroundings through the eye of the camera.

Develop and apply technical and artistic skills in traditional and digital photography.

Learn about photography as an art, a science and a communication tool.

Record events, ideas, and situations for study or reference.

Learn to observe and appreciate surroundings.

Learn to enhance or change a photo's appearance in the darkroom or with photo editing software.

Explore job and career opportunities related to photographer.

## **AGRICULTURE**

**AGRICULTURE** – The agriculture project will provide opportunities for youth to improve their understanding of modern farming and overall agricultural practices.

To obtain a broad knowledge in multiple agricultural project areas of choice.

4-H members will develop in self and others, a knowledge and respect for agriculture by informing and promoting the source of our food and fiber.

Develop a basic understanding of crop and livestock management and the importance of these management practices to the community and international economy.

Develop skills that contribute to profitable, efficient farming and ranching.

Practice and promote farm safety and quality assurance practices.

Incorporate appropriate technology into farming operation.

Explore career and job opportunities related to agriculture.

## **ANIMAL SCIENCE**

**ANIMAL SCIENCE** – The animal science project involves raising and caring for live animals while learning about animal health, nutrition, breeding, selection and marketing. The animal science project offers outstanding opportunities for individuals to gain experience in decision-making, record-keeping, responsibility, sportsmanship and leadership. (Use this project when you have multiple species of animals in your project.)

Learn basic principles of animal science by owning and/or caring for and keeping records on multiple head of livestock in multiple species. Example: you own both beef cattle and meat goats.

Demonstrate knowledge of sound breeding, feeding and management practices.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Learn the value of scientific research and its influence upon animal industry.

Learn to identify breeds, wholesale and retail meat cuts of respective species.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in animal science.

**BEEF** – The Beef project teaches the fundamentals of the beef cattle industry by allowing youth to explore the areas of animal husbandry, livestock selection, health and care, in addition to showing of beef cattle at local, county, state and national cattle shows.

Learn basic principles of animal science by owning and/or caring for and keeping records on one or more head of livestock.

Demonstrate knowledge of sound breeding, feeding and management practices.

Identify breeds of beef cattle and history.

Identify types and grades of animals and employ efficient marketing methods.

Identify wholesale and retail cuts of animals and animal products and understand their relationship to recommended beef quality assurance practices.

Develop integrity, sportsmanship, decision-making capability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Learn the value of scientific research in its influence upon animals and the meat industry.

Practice leadership skills and roles, take part in community affairs and demonstrate citizenship responsibility.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the beef industry.

**DAIRY** – The dairy project is a great way to learn more about the dairy industry and milk production, as well as animal nutrition, health and reproduction. Dairy project participants can demonstrate their knowledge and abilities through dairy shows, public speaking contests, dairy skill-a-thon, dairy quiz bowl and dairy cattle judging.

Become aware of the scope and economic significance of the dairy industry.

Acquire dairy production skills through owning and caring for dairy animals.

Learn principles of processing, marketing, distribution and consumption of dairy products.

Identify breeds of dairy animals, and the advantages of each type to dairy production.

Utilize effective record-keeping to maximize production.

Develop an understanding of scientific research and principles of cleanliness and sanitation as applied to the dairy industry.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the dairy industry.

**MEAT GOATS** – The Meat Goat project involves raising and caring for live animals while learning about animal health, nutrition, breeding, selection and marketing. The 4-H goat project offers opportunities for individuals to gain experience in decision-making, record-keeping, responsibility, sportsmanship and leadership.

Learn basic principles of animal science by owning and/or caring for and keeping records on one or more head of livestock.

Demonstrate knowledge of sound breeding, feeding and management practices.

Identify breeds of meat goats and history.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Learn the value of scientific research and its influence upon animals, the meat goat industry.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the meat goat industry.

**HORSE** – The Horse project is a great way to learn more about the horse industry, as well as animal nutrition, horsemanship, health and reproduction. Horse project participants can demonstrate their knowledge and abilities through horse shows, public speaking contests, hippology, quiz bowl and judging.

Acquire skills in horse management by owning a horse or pony and being responsible for it.

Appreciate riding as a recreation and gaining knowledge of different writing styles.

Learn horsemanship skills and understanding breeding, training and raising of horses as a business.

Identify breeds of horses and history.

Acquire safety skills to prevent injury to persons and animals.

Develop sportsmanship, cooperation, decision-making ability, and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the horse industry.

MEAT SCIENCE – The Meat Science project teaches youth to identify various cuts of meats, and determine the relative quality of wholesale and retail cuts of meat.

Learn basic principles of meat sciences identify beef, pork and lamb wholesale and retail cuts.

Learn to identify quality of color, marbling, maturity and grading of meats.

Learn the principles of quality assurance production practices and impact of those procedures in the meat industry.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Learn the value of scientific research and its influence upon animals, the meat industry.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the meat industry.

PETS – The Pet Care project teaches about the selection and care of a pet, the maintenance and reproduction of pets, the responsibilities of having a pet, the importance of citizenship and cooperation. This does not include any livestock projects.

Explore pet products and the pet industry.

Learn about local pet registration laws.

Study the responsibilities of pet ownership.

Demonstrate management in feeding, care, handling, grooming and fitting.

Keep records of all costs and management practices.

Learn to follow pet health regulations, including first aid and simple treatments for ailments not requiring veterinary attention.

Train a pet to follow simple commands.

Understand the role of scientific research in pet husbandry.

Develop sportsmanship, cooperation, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the pet industry.

POULTRY – The Poultry project teaches members poultry production and marketing by managing poultry projects. Project topics include turkeys, broilers, pullets, egg production and development from egg to chick.

Become aware of the scope and economic significance of the poultry industry.

Acquire skills in poultry production through ownership and care of poultry.

Appreciate contributions and applications of scientific research to the poultry industry.

Demonstrate knowledge of sound breeding, feeding, management and marketing practices.

Apply USDA standards in grading ready-to-cook poultry and eggs.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Identify breeds of poultry and history.

Understand the important difference between animal rights and animal welfare.

Explore career, job and productive leisure opportunities.

RABBITS – The Rabbit project teaches proper methods for caring for, raising, breeding and marketing rabbits.

Learn basic principles of rabbit production by owning and/or caring for and keeping records on one or more rabbit.

Demonstrate knowledge of sound breeding, feeding, management and marketing practices.

Identify breeds of rabbits and history.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging and/or exhibits.

Understand the important difference between animal rights and animal welfare.

Explore career and job opportunities in the rabbit industry.

SHEEP – The Sheep project teaches youth to care for live animals while learning about animal health and nutrition, breeding, selection and marketing. Individuals learn decision-making, record-keeping, responsibility, sportsmanship and leadership.

Learn basic principles of animal science by owning and/or caring for and keeping records on one or more head of sheep.

Demonstrate knowledge of sound breeding, feeding and management practices.

Identify types and grades of animals and fleece to employ efficient marketing methods.

Identify breeds of sheep and history.

Identify wholesale and retail cuts of animals and animal products and understand their relationship to management practices.

Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging skill-a-thons and/or exhibits.  
Learn the value of scientific research and its influence upon animals, the meat industry and the fiber industry.  
Understand the important difference between animal rights and animal welfare.  
Explore career and job opportunities sheep industry.

**SWINE** – The Swine project teaches participants proper methods of selecting, feeding, raising, breeding and marketing swine.

Learn basic principles of animal science by owning and/or caring for and keeping records on one or more head of livestock.  
Demonstrate knowledge of sound breeding, feeding and management practices.  
Identify breeds of swine and history.  
Identify types and grades of animals to employ efficient marketing methods.  
Identify quality in wholesale and retail cuts of animals and animal products and understand their relationship to management practices.  
Develop integrity, sportsmanship, decision-making ability and public speaking skills through participation in demonstrations, tours, judging, skill-a-thons and/or exhibits.  
Learn the value of scientific research and its influence upon animals and the meat industry.  
Understand the important difference between animal rights and animal welfare.  
Explore career and job opportunities.

## **PLANT SCIENCE**

**PLANT AND SOIL SCIENCE** – The Plant and Soil Science project will provide opportunities for improved understanding of plants, how they grow, reproduce and are utilized.

Members will learn the principles of plant science, including biotechnology.  
Understand soils, how they are formed and their different properties and classifications.  
Apply knowledge gained about plants and soils through experiments either in a laboratory or field setting.  
Develop and gain knowledge, integrity, cooperation and public speaking skills through participation in demonstrations, judging, tours, presentations and/other exhibits.  
Explore career and job opportunities related to plant and soil sciences.

**GARDENING AND HORTICULTURE** – The Gardening and Horticulture project teaches youth about basic principles of fruit, vegetable, flower and lawn production

Learn basic principles of plant science.

Learn to plan, care for and manage vegetable and/or flower gardens, lawns or commercial horticulture crops.

Learn effective, safe methods of pest control and management.

Produce vegetables and fruits for year-round use to improve family nutrition.

Explore all aspects of gardening, including its therapeutic role and its relationship to agriculture production.

Explore job and career opportunities.

**CROP SCIENCE** – The Crop Science project encompasses learning opportunities related to any combination of rice, cotton, soybean and corn crops.

Members will learn the principles of plant science, including biotechnology.

Understand soils, how they are formed and their different properties and classifications.

Learn to plan, care for and manage crops of rice, cotton, soybeans and corn.

Learn effective, safe methods of pest control and management.

Explore job and career opportunities.

## **PROTECTING THE ENVIRONMENT**

**OUTDOOR ADVENTURES** – Outdoor Adventure project involves youth experiencing the fun and excitement of the outdoors as activities progress from day hikes to overnight camping trips and backpacking expeditions.

Youth will practice and develop the life skills of relating to others, making decisions and communicating with others.

Plan and safely conduct camping, backpacking and wilderness excursions.

To enable youth to prepare camp meals.

Enable youth to use a compass and GPS equipment.

Enable youth to maintain gear and equipment.

Develop minimum impact skills according to “leave no trace” techniques.

**ENVIRONMENTAL STEWARDSHIP** – Environmental Stewardship project includes activities involving ecology, human impact on the environment, pollution, waste management and current technology and public policy.

To achieve a better understanding of the importance of conserving the earth's natural non-renewable resources.

To become effective and informed citizens by understanding public concerns for the environment.

To learn appropriate practices and methods of conservation.

Appreciate the value of natural resources to derive the greatest long-range benefit for all.

To learn scientific research techniques, responsible practices and innovative technologies that positively address environmental issues such as air and water quality, land use, carrying capacity, product life cycle and ecological sustainability.

To develop leadership abilities by promoting awareness in local communities of critical issues and trends in environmental issues.

To explore career opportunities in the public and private sector that impacts the future of environmental policy.

**FORESTRY** – The Forestry project stresses general forestry knowledge, tree identification, insect and disease identification, compass and pacing and judgment about land management decisions.

Develop a positive attitude toward the importance of conserving our forest resources.

Appreciate woodlands as a source of income, raw materials and enjoyment.

Learn about the forest as a living community.

Identify trees by their leaves, fruit, flower or bark.

Learn about good forestry practices and develop skills in executing them.

Learn and practice skills such as planting, pruning, thinning and cruising, in forest management and use of forest products.

Learn to keep our forests healthy.

Learn about the business of forests: logging, wood products and careers.

**SHOOTING SPORTS** – Shooting Sports project gives a comprehensive introduction to shooting safety and the fundamentals of archery, hunting, muzzle loading, pistol, rifle and shotgun. The project includes an introduction to a wide array of shooting activities, wildlife ecology and behavior.

Practice the life skills of goal-setting, self-discipline, decision-making, communicating with others, planning and organizing and learning to learn.

Understand and demonstrate firearms and archery safety.

Learn the fundamentals of shooting and demonstrate your skill.

Develop a personal environmental stewardship ethic through participation in shooting, hunting and related activities.  
Practice and promote the highest standards of sportsmanship and ethical behavior in competitive and recreational shooting.  
Explore and instill shooting sports disciplines as opportunities for lifelong sports involvement.

**SPORT FISHING** – Sport Fishing provides information and motivation to youth interested in fishing and/or aquatic resource stewardship in four knowledge and skill areas: angling skills, tackle craft, aquatic ecology and people and fish (angling ethics, fisheries management and folkways.).

To enable youth to develop leadership, self-confidence, personal discipline, critical thinking and other life skills.  
To enable 4-H members to gain a thorough introduction in fishing skills and safety.  
Practice the use of sport fishing and related equipment including tackle craft, angling skills and aquatic ecology.  
Develop responsible fishing behavior and as well as fishing ethics.  
Develop appreciation, understanding and commitment to natural resource stewardship.  
Gain knowledge of the ecological and social bases of fisheries management.  
To explore careers in the sport fishing industry.

**WILDLIFE MANAGEMENT** – The Wildlife Management project looks at wildlife biology, ecology and management from simple identification to management processes.

Promote understanding of and involvement in the North American Waterfowl Management Plan.  
Understand the needs of wildlife resources.  
Develop skills in planning, managing and keeping records of wildlife production, maintenance and use.  
Develop an appreciation of the need to manage wildlife habitats.  
Demonstrate sound wildlife practices.  
Utilize ethical hunting practices.  
Practice and support wise stewardship of natural resources, including providing cover for wildlife, using recommended amounts of fertilizer to avoid overgrowth of algae and other plant life in ponds and streams.  
Provide a catalyst for waterfowl habitat establishment during migration periods.  
Promote the control of red rice in flooded fields for improved rice production.  
Explore job and career opportunities related to wildlife management.

**WOOD SCIENCE** – Wood Science project provides an introduction to the fiber products of the forest, including identifying the various types of wood and wood products and their uses. This includes encouraging enjoyment from making things from wood and selection, care and safe use of wood working tools and machines.

Develop an understanding of and appreciation for the fiber products of the forest.

Acquire knowledge and develop skills in the selection, care and safe use of woodworking tools and machines.

Learn about the business and economics for the forest products industry.

Learn about the environmental protection and the wise use of natural resources.

Explore job and career opportunities.

Explore job and career opportunities related to wood science industry.

## **UTILIZING SCIENCE and TECHNOLOGY**

**ENERGY MANAGEMENT** – The energy management project focuses on learning about the production and uses of different kinds of energy.

Learn to troubleshoot and maintain engines, motors and related equipment, including those energy areas related to wind, water, solar, petroleum power, etc.

Understand the production, selection, use, conservation and safe handling of energy.

Develop buying habits based on cost-benefit analysis.

Develop an appreciation and respect for the environment, rights and property of people and human responsibility in the production and use of energy.

Practice and promote wise use of energy, taking into consideration “need versus want.”

Learn about and abide by federal, state and local laws and regulations regarding safe operation of energy powered equipment or energy producing equipment.

Learn, understand and observe technology changes and how it relates to energy.

Develop an understanding of the cost versus benefit use of new alternative energy sources.

**ELECTRICITY** – The electricity project encourages the exploration electronic equipment and their benefits to society.

- To develop an understanding of the basic principles and theories of electricity and its generation and distribution.
- To understand the important effect electric energy has on humanity and its environment.
- To become aware of and abide by federal, state and local laws and code regarding the operation of electrical powered equipment.
- To promote knowledge of safe practices and procedures to prevent personal injury and property damage.
- To develop the ability to safely operate, maintain and repair electrical power sources and their devices and systems.
- To develop an understanding of the economics of efficient purchase and operation of electrical-powered equipment and an ability to keep and interpret a record of the cost of operation and ownership.

ENTOMOLOGY – The entomology project familiarizes youth with the insect world by studying, collecting and identifying various insects.

- Discover how helpful and harmful insects live, multiply, are controlled and affect humans.
- Display the correct methods of collecting, mounting and displaying various insects.
- To recognize common insects and other arthropods closely related to insects.
- Study insects and their relationship to agriculture products, public health and natural resources.
- Learn effective, safe methods of insect control and management.
- Explore job and career opportunities related to entomology.

TECHNOLOGY AND ENGINEERING – The technology and engineering project focuses on the areas of computer science, geospatial, aerodynamics and robotics.

- To develop an understanding of the basic principles and theories of computer science, geospatial, aerodynamics and/or robotics.
- To learn the basic concepts related to robotic subsystems such as structure, power, sensors, control and programming.
- To understand the important effects computers have on humanity and its environment.
- To promote the knowledge of safe practices and procedures using computers.
- To acquire knowledge regarding efficient utilization of computers in the home, school and industry.
- To increase the awareness, concern and knowledge regarding computers and their use to transmit and receive information electronically.
- To explore career opportunities in the engineering and technology industry.

VETERINARY SCIENCE – The veterinary science project deals with techniques and procedures involved in caring for the health of your animals. It includes learning how veterinarians are most effective.

- Develop understanding and appreciation of veterinary medicine.
- Utilize good management and sanitation practices in keeping animals and birds healthy.
- Learn the value of scientific research and its influence upon animals and their health.
- Follow recommended practices for maintaining animal health, including vaccination schedules, waiting periods after administering antibiotics, etc.
- Educate others regarding the dangers of using non-labeled drugs for enhancement of animals.
- Learn appropriate injection sites and methods for medications and vaccinations.
- Explore careers in the veterinary science field.

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