



Animal Science

Animal Science projects teach subject matter related to each animal while helping you develop life skills. In each level, you may choose from a variety of learning goals as you develop an inquiring mind and a desire to seek out the scientific principles involved in raising and marketing livestock. You can develop leadership, initiative, self-reliance and sportsmanship through project activities. You'll learn to accept responsibility by having an animal to care for regularly and the principles of animal nutrition. Through animal science projects you also learn to care for, train and handle animals safely. You can practice taking care of equipment and evaluate several methods of performing a task. You'll better understand and apply research in making wise decisions and investments and use it in managing your animals and planning your goals. Animal science projects are designed to stimulate your interest as you explore the livestock industry or establish a profitable livestock business of your own.

ARE "WE" READY FOR A 4-H LIVESTOCK PROJECT?

Parents:

Showing an animal at the county fair is an educational and memorable experience for youth in the 4-H Livestock projects. Showing livestock builds confidence and character in young people. They learn how to select, care for and keep records on their project. From the time that an animal project is started until it is finished the youth is responsible for a major part of the daily care of their project.

Successful 4-H members have caring adults in their lives that are truly enthusiastic about the projects the member is taking. It is important that adults offer supervision, assistance and encouragement to the 4-H'ers. As an adult if you are willing to help in these ways, it will make a difference. However be aware that while having caring adults is clearly important, it is equally important that parents and other adults not go too far with the helping. It is important to support and assist to a reasonable extent, but do not do the various chores and requirements called for by the project for the child. It is also inappropriate for a professional to own, care for or groom the project animals.

Families are encouraged to have realistic conversations about the time and other resources that animal projects require. Animal projects will take a minimum of one hour daily to care for the basic needs, such as feeding, watering and vet care of the animal. Market beef projects typically start in November or December and continue through until July or August. Pig, sheep and goat market projects start in April or May and continue through July or August. Training and preparing an animal for show will take several additional hours per day. Breeding projects are a year-round commitment for both the member and family.

Each county fair or show in Montana will have its own unique rules and guidelines. It is the member's responsibility to read and understand the regulations and rules that govern their project and the shows they want to participate in. It is suggested that the youth obtain a copy of the county information that is specific to their project before they start the project.

MAKING A DECISION

The family has decided to commit to the responsibility of owning animals and supporting youth members in taking a livestock project. Which Project? Below are several questions that should be answered as a family, to help prepare you for ownership of an animal.

- What are the goals for this project?
- What species will be raised?
- Will only market animals be raised or will the project expand into breeding?
- How many animals can we feed at one time?
- How will we market the animal(s)? (both breeding and market)
- How much time and money do we have and want to invest?
- What are our facilities suitable for? Do they need improvement?
- Do we have the resources available to provide proper health care?
- Are we comfortable with selecting animals to purchase?
- Is there someone in the community that can help us select animals?
- What are the regulations at the local fair?
- Will we be showing in other fairs or jackpot shows?
- How will we transport the animals?

A great way to gather information is to attend and observe a show as a family. At the show you will see first-hand some of the work and commitment that is part of a livestock project. In addition, it is a great chance for you to meet and talk to exhibitors and producers. Most of these people are happy to share their thoughts and suggestions. It is important to develop good relationships with the other producers as they are a great source of information.

MONTANA 4-H ANIMAL QUALITY ASSURANCE POLICY

All 4-H members (and a parent or guardian) enrolled in any livestock project, including breeding projects, must become certified through Animal Quality Assurance training at least once as a junior 4-H member and recertify once as a senior 4-H member. All new members are required to complete a county Animal Quality Assurance training workshop in their first year.

Discuss options with your county agent to determine the requirements and recertification opportunities available in your county. In some counties, senior 4-H members, if previously certified, may recertify through county AQA training, by successfully completing an official online course offered by industry associations or universities, or by teaching AQA to younger members. Some counties require beginners (age 8-10) to take the class and then again as a junior (age 11-13).

GENERAL PROJECT REQUIREMENTS

By completing the minimum requirements at each level, you'll learn about every part of the project and be ready for the next level. The achievement program will help you set goals, record your successes and be recognized for your good work. Each level can take several years to complete. You are not expected to complete a level each year. In some projects, more than one level can be completed in a year if you are highly motivated. Remember, keeping records is an important part of every livestock project.

MATERIALS

- S.....4-H Livestock Sale, 5310, \$2.50
- S.....Sheep Resource Handbook for Market and Breeding Projects, 4H194R, \$28.00
- S.....Swine Resource Handbook for Market and Breeding Projects, 4H134R, \$20.00
- S.....Beef Resource Handbook for Market, Breeding and Feeder Cattle, 4H117R, \$19.00
- L.....Livestock Quality Assurance for Youth Producers, 5300, \$8.00
- L.....Beef, Sheep, Swine Selection Guide, 4H103R, \$11.50

BEEF

Beef is an excellent way to learn about an important industry in Montana and the rest of the nation. Through this project, you can learn about all aspects of the beef industry, either by directly caring for a calf or by learning about beef through the 4-H achievement program in each level. You may raise a market calf or manage a breeding animal at any level. **Youth wishing to enroll in Market Beef or Breeding Beef must also be enrolled in Level 1, 2, or 3.** If you enroll in independent study, you are expected to have already completed the three levels of the beef project and have set some learning goals for your independent work.

Beef, Level 1**Enroll in Market and/or Breeding on form if desired**

Level 1 activities are for youth who may or may not have their own calf. If you don't own a calf, these activities will help you decide if you want to raise calves by learning more about them. In this level, you will learn about beef cattle, breed identification, locating parts on a steer, judging, halter breaking, fitting a steer, showing a calf, recognizing a healthy animal, selecting feed ingredients and how to shop for beef and beef by-products.

PROJECT REQUIREMENTS

It may take up to three years for you to complete this level. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M.....Bite Into Beef, BU8143, \$6.00
- L.....Beef Helper's Guide, BU8146, \$6.00

Beef, Level 2**Enroll in Market and/or Breeding on form if desired**

Once you've completed the achievement requirements in level one, you're ready for *Here's the Beef*. In this level, you'll learn about leg structure, how to present oral reasons in judging, feed ingredients, beef behavior, nose printing, parasites, fitting your market beef, ethical issues, beef carcass composition and retail meat cuts.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M.....Here's the Beef, BU8144, \$6.00
- L.....Beef Helper's Guide, BU8146, \$6.00

Beef, Level 3**Enroll in Market and/or Breeding on form if desired**

As an advanced member, you have several opportunities to share your knowledge and experience about beef cattle with other members. You'll also gain leadership skills as you help others learn about cattle. In this level, you will teach others about beef cattle, explore career opportunities, and learn about selection, judging, fees, health, reproduction, meats and marketing.

PROJECT REQUIREMENTS

It may take as long as three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M.....Leading the Charge, BU8145, \$6.00
- L.....Beef Helper's Guide, BU8146, \$6.00

ADDITIONAL PROJECT MATERIALS

- S.....Beef Resource Handbook for Market, Breeding and Feeder Cattle, 4H117R, \$19.00

Beef Independent Study (see pg 7)**Beef Helper's Guide, BU8146, \$6.00**

Find a variety of group learning activities, including skill-a-thons, quiz bowls, games, presentations, Beef Bingo and several management skill activities.

CAT

Cat will help you learn more about one of our most common household pets. You will explore all kinds of things about cats-from nutrition to showing, and learn the basics about care and companionship.

Cat, Level 1

This level is for youth who may or may not have a cat of their own. The important thing is that you want to learn more about cats and care about animals. If you don't have a cat, the activities in this level will help you decide whether you want a cat in the future. In the project, you will learn about breeds of cats, cost of raising a cat, and how to care for and groom a cat.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M.....Purr-fect Pals! BU8148, \$6.00
- L.....Cat Group Helper's Guide, BU8151, \$6.00

Cat, Level 2

After completing level one, you will advance to level two. Besides learning a lot about yourself and practicing important life skills, you will learn about organizations that have information about cats, how to show a cat, how to train a cat, about careers related to cats, how to read and understand a feed label, about external parasites that can affect cats and more.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Climbing Up! BU8149, \$6.00
- L**Cat Group Helper's Guide, BU8151, \$6.00

Cat, Level 3

Designed for advanced members, this project offers you a variety of ways to share your knowledge and experience and develop leadership skills. In this level, you'll learn how to develop a business plan, learn about genetics, explore career choices, organize a cat quiz bowl, research cat laws, and learn about diseases, reproduction, behavior and showmanship.

PROJECT REQUIREMENTS

It may take up to three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Leaping Forward, BU8150, \$6.00
- L**Cat Group Helper's Guide, BU8151, \$6.00

ADDITIONAL PROJECT MATERIALS

- M**4-H Cat Project, EM4809, \$3.50
- M**Cat Fitting and Showmanship, EM4810, \$3.50

Cat Independent Study (see pg 7)**Cat Group Helper's Guide, BU8151, \$6.00**

Find group activities in this guide—an excellent way to involve everyone in learn-by-doing cat project sessions.

DAIRY CATTLE

The Dairy Project is for members who want to learn more about dairy animals. If ownership is not possible, this project allows you to have a contract with a dairy to care for one or more animals. Members usually start with a heifer calf or yearling heifer. Older members may start with a producing cow. Keep milk production records on all producing cows, using Dairy Herd Improvement Association (DHIA) guidelines. This project also provides an opportunity to start with a calf and raise it to a producing cow.

Dairy Cattle, Level 1

This level is for beginning members who may or may not own a dairy animal. Through the activities in this level, you will learn about the parts of the dairy cow, various dairy breeds and the cost to raise a calf. You will also learn how to care for a dairy animal and how to recognize desirable traits when selecting calves. If you don't already have a dairy animal, some of the activities in this level will help you decide whether you want to raise dairy cattle in the future. It may take up to three years to complete this level.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**Cowabunga!, BU8161, \$6.00
- L**Dairy Cattle Helper's Guide, BU8164, \$6.00
- S**Dairy Cattle Feed Sheet, 4-H website

Dairy Cattle, Level 2

Level 2 offers new challenges and opportunities to explore a range of activities related to dairy cattle and the dairy industry. In this level, you will learn about housing, hay quality, milking, animal health, parasites, behavior and food safety. You will also learn about ethical decision-making, judging and careers.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Moooving Ahead, BU8162, \$6.00
- L**Dairy Cattle Helper's Guide, BU8164, \$6.00
- S**Dairy Cattle Feed Sheet, 4-H website

Dairy Cattle, Level 3

Whether you raise one calf or several cows, you are in an excellent position to share your knowledge and experiences with others. You'll also find activities to help you manage your herd, practice mastitis detection, balance a ration, detect pregnancy and deliver a calf. You will also learn about body condition scoring, selecting cattle through records, promoting dairy products and exploring career opportunities.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Rising to the Top, BU8163, \$6.00
- L**Dairy Cattle Helper's Guide, BU8164, \$6.00
- S**Dairy Cattle Feed Sheet, 4-H website

ADDITIONAL PROJECT MATERIALS

- L**Dairy Resource Handbook, 4H127R, \$16.75

Dairy Independent Study (see pg 7)**Dairy Cattle Helper's Guide, BU8164, \$6.00**

Four chapters include Cow Talk Glossary Terms, Pedigree Power, a dairy pyramid game and a dairy skillathon as well as many other resources.

DOG

Dog is perfect for youth who are interested in learning more about dogs, how to care for a dog, and how to train a dog in basic or advanced commands. The dog project is unique and not meant to conform to AKC dog show or other professional standards.

Although beginners do not need to own a dog to participate in the first level of the project, the more advanced levels do require dog ownership. Each level may take up to three years to complete. **Youth can sign up for Dog Obedience and Dog/Agility to supplement their learning experience but must enroll in Level 1, 2 or 3.**



Dog, Level 1**Enroll in Obedience and/or Agility on form if desired**

In level 1, the activities are for those who may or may not have a dog of their own, but want to learn more. If you don't have a dog, some of the activities in this level may help you decide whether you want to make the commitment to own and care for a dog. You will learn about basic care, training, breeds, parts of the dog, and how to keep a dog healthy and groomed.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. You must complete a minimum of seven activities and three learning experiences each year to complete the project.

MATERIALS

- M**Wiggles and Wags, BU8166, \$6.00
- L**Dog Helper's Guide, BU8169, \$6.00

Dog, Level 2**Enroll in Obedience and/or Agility on form if desired**

Level 2 offers opportunities and challenges to explore a wide range of activities related to dogs. Dog ownership is necessary to participate in this level. You will explore more about dog health, nutrition, care, genetic problems, population control, showmanship, training, ethics and budgeting.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Canine Connection, BU8167, \$6.00
- L**Dog Helper's Guide, BU8169, \$6.00

Dog, Level 3**Enroll in Obedience and/or Agility on form if desired**

In this level, you will focus on advanced skills in dog training and management. By this level, you may be ready to compete in AKC trials. You will investigate responsible breeding, diseases, caring for geriatric dogs, training, service dogs, dog roles and careers related to dogs. You will also be presented with many leadership opportunities.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and five learning experiences each year to complete this project. It may take as many as three years for you to complete this level.

MATERIALS

- M**Leading the Pack, BU8168, \$6.00
- L**Dog Helper's Guide, BU8169, \$6.00

ADDITIONAL PROJECT MATERIALS

- L**Dog Resource Handbook 4H201R, \$21.00

Dog Independent Study (see pg 7)**Dog Helpers Guide BU8169, \$6.00**

Group games and activities provide helpers with ideas for facilitating learning. Service learning opportunities are encouraged. Training activities and resources are highlighted.

DAIRY GOAT

Although beginners do not need to own a goat, the more advanced levels of the project are designed for those who have one or more goats to care for. Raise a goat for milk, mohair, meat or even for packing.

Dairy Goat, Level 1

You will learn about both dairy goats (raised primarily for milk) and Angora goats (raised for mohair). You'll learn about the parts of the goat, breeds, costs to raise a goat, and how to care for a goat while developing important life skills.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**Getting Your Goat, BU8352, \$6.00
- L**Goat Helper's Guide, BU8355, \$6.00

Dairy Goat, Level 2

You'll learn how to keep your goat healthy, feed them for maximum production, prepare for kidding, develop judging skills and milk a goat properly.

PROJECT REQUIREMENTS

Three years may be required to complete this level. You must complete at least seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Stepping Out, BU8353, \$6.00
- L**Goat Helper's Guide, BU8355, \$6.00

Dairy Goat, Level 3

Advanced 4-H members learn about genetics and breeding, careers in the goat industry, diseases, biosecurity, body condition scoring, pedigrees and quality assurance. At this level, you are in an excellent position to share your knowledge and experiences with others.

PROJECT REQUIREMENTS

You must complete a minimum of seven activities and five learning experiences each year to complete this project. (It may take up to three years to complete this level.)

MATERIALS

- M**Showing the Way, BU8354, \$6.00
- L**Goat Helper's Guide, BU8355, \$6.00

ADDITIONAL PROJECT MATERIALS

- S**Goat Resource Handbook, 4H135R, \$21.75

Goat Independent Study (see pg 7)**Goat Helper's Guide, BU8355, \$6.00**

Plan group meetings to get youth involved and excited to learn about goats. Youth will enjoy playing goat-related games, conducting skillathons, giving demonstrations, participating in showmanship contests and other fun group activities.

MEAT GOAT

Meat Goat is designed for members who want to learn about breeds of meat goats, health care, grooming, production, reproduction, management, showmanship, marketing and careers. **Youth wishing to enroll in Market Goat or Breeding Goat must also be enrolled in Level 1, 2, or 3.**

Meat Goat, Level 1

Enroll in Market and/or Breeding on form if desired

You will learn about goat breeds and selection, feeding and management, goat health, goat body parts, record keeping, meat goat and dairy conformation, show preparations and sportsmanship.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- MJust Browsing, BU7909, \$6.00
- LMeat Goat Helper's Guide, BU7912, \$6.00

Meat Goat, Level 2

Enroll in Market and/or Breeding on form if desired

You will learn about goat diseases, identify poisonous plants, determine body conditions, water quality, goat predators, kidding, goat reproduction, the veterinary profession, selecting stock and showing meat goats.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- MGrowing with Meat Goats, BU7910, \$6.00
- LMeat Goat Helper's Guide, BU7912, \$6.00

Meat Goat, Level 3

Enroll in Market and/or Breeding on form if desired

You will discover how to select breeding sires, balance a ration, prevent diseases, control internal and external parasites, practice biosecurity, practice sound ethics, conduct a meat goat judging clinic, judge goats, give oral reasons and explore meat goat products.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- MMeating the Future, BU7911, \$6.00
- LMeat Goat Helper's Guide, BU7912, \$6.00

ADDITIONAL PROJECT MATERIALS

- SGoat Resource Handbook, 4H135R, \$21.75

Goat Independent Study *(see pg 7)*

Meat Goat Helper's Guide, BU7912, \$6.00

Groups will enjoy planning a program, completing project records, developing a management calendar, conducting a meat quality assurance program, participating in quiz bowls, skillathons, tours, giving a presentation and exploring goat-related careers.

HORSE

Horse projects provide youth with an opportunity to handle, care for, ride or drive horses. There are 10 horse projects. Members must have completed levels 1-3 in Horsemanship to participate in the Advanced Horse Projects. Members are eligible to participate in Horse projects according to ability and skill level. **SKILL LEVELS DO NOT NECESSARILY CORRESPOND TO YEARS.** It is possible to complete several levels in a year; or youth may take several years to complete one level. Assessment sheets are provided for leaders to determine when a member completes the levels.



Montana Horse Helmet Policy

A certified equestrian helmet with safety harness fastened is required in over fence classes and gymkhana events, activities and practice sessions. Gymkhana refers to horseback speed events (timed or un-timed) that do not use livestock. Events that fall in this category include, but are not limited to: barrel racing, pole bending, keyhole, stake, rescue races, pony express race, etc. Events not included in this policy are events such as calf roping, team roping, goat tying, and team penning that may be timed, but use livestock. Participants in the 4-H Horse Project are required to attend a helmet education workshop and/or view the video "Every Time, Every Ride" once as a junior 4-H member (8-13) and once as a senior 4-H member (14 and up). It is the responsibility of the parent or guardian of the 4-H member to see that headgear complies with standards and is in good condition. The Montana 4-H Center for Youth Development encourages the use of ASTM certified/SEI approved safety helmets in all equine events. Protective headgear may be used in all classes and shall not be discriminated against. Helmet use is encouraged in all 4-H horse activities any time a 4-H member is around a horse. Counties may establish more stringent policies regarding helmet use.

MATERIALS

- LHorse Education DVD "Every Time, Every Ride", 5324, \$15.50
- LHorse Helmet Safety "Slide show", 4-H Website

Horsemanship

Horsemanship is the basis for the horse project. All members must complete Horsemanship levels 1, 2 and 3 before entering any other Horse project, with the exception of Horse Judging, Careers with horses, Horse Showing and Packing, and Working Ranch Horse, which may be taken simultaneously with any mounted horse level. (See the project descriptions for specific assessment requirements.) Horsemanship has seven levels. Depending on which form of riding you practice, use the following numbers to enroll in the appropriate level.

WESTERN

- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Level 6
- Level 7

ENGLISH

- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Level 6
- Level 7

NOTE: Remember, for the state horse show, you can show only one level above or below the level in which you are enrolled.

MATERIALS

- M**Horsemanship, Levels 1–3, 5246, \$5.50
- M**Horsemanship, Levels 4–7, 5262, \$5.50
- M**Montana Horsemanship Projects Manual, 2C1160, \$5.50
- L**Every Time Every Ride DVD (Horse Helmets), 5324, \$15.50

Horseless Horse

If you currently do not have a horse, but think that one day you will and will want to participate in other horse projects, you should enroll in this project. As a “Horseless Horse” project member, you can also participate in horse judging and horse career projects without your own horse.

Horseless Horse 1

In this level, you will learn how to identify the parts of a horse, horse behavior, horse breeds, costs of raising a horse, how to care for a horse, horse facilities, horse safety rules and much more. But, learning about horses is not all you’ll do. You’ll also have the opportunity to present a demonstration, take tours, watch a horse show and attend a horse clinic.

PROJECT REQUIREMENTS

Do at least seven of the required and optional activities in Level 1. Complete at least 21 of the required and optional activities in Level 1 within three years to complete this program.

MATERIALS

- M**Giddy Up and Go, 01518Y, \$6.45
- L**Horse Project Helper’s Guide, BU8058, \$6.00

Horseless Horse 2

In Horseless Horse 2, you will learn about selecting a horse, nutrition, care, teeth, bones, judging and how to give oral reasons.

PROJECT REQUIREMENTS

Do at least seven of the required and optional activities in Level 2. Complete at least 21 of the required and optional activities in Level 2 within three years to complete this program.

MATERIALS

- M**Head, Heart and Hooves, BU8054, \$6.00
- L**Horse Project Helper’s Guide, BU8058, \$6.00

Horseless Horse 3

This level of the horseless horse project rounds out your knowledge about horses and prepares you for eventual horse ownership. In this level, you will explore horse reproduction, diseases, health care and pasture management. You will also learn about appropriate shelters and financial planning. You’ll also be equipped to teach others about horses.

PROJECT REQUIREMENTS

Do at least seven of the required and optional activities in Level 3. Complete at least 21 of the required and optional activities in Level 3 with three years to complete this program.

MATERIALS

- M**Stable Relationships, BU8055, \$6.00
- L**Horse Project Helper’s Guide, BU8058, \$6.00

Horseless Horse 4

In level 4 you will learn nine basic riding skills and 10 horsemanship skills. You will also learn training techniques, all about trail riding and selection and use of tack.

PROJECT REQUIREMENTS

Do at least seven of the required and optional activities in Level 4. Complete at least 21 of the required and optional activities in Level 4 within three years to complete this program.

MATERIALS

- M**Riding the Range, BU08056, \$6.00
- L**Horse Project Helper’s Guide, BU8058, \$6.00

Horseless Horse 5

In level 5 you will learn more advanced riding skills. You will also learn the Quarter System, horse showmanship, ethics and leadership.

PROJECT REQUIREMENTS

Do at least seven of the required and optional activities in Level 5. Complete at least 21 of the required and optional activities in Level 5 within three years to complete this program.

MATERIALS

- M**Jumping to New Heights, BU8057, \$6.00
- L**Horse Project Helper’s Guide, BU8058, \$6.00

Horse Project Helper’s Guide, BU8058, \$6.00

Features group activities such as Horse Bingo, You be the Judge, Corral Your Character and Skill-a-thons.

Colt to Maturity

This project is for those who own or have available a colt or filly to care for and train. This is a five-year progressive project beginning with a yearling. The project is designed to help you select a foal and train it to maturity. You must be 11 on Oct. 1; have completed Horsemanship levels 1, 2 and 3; and demonstrated ability to handle the project to the county horse leader or designated person. Stallions will be allowed only in the yearling phase. Check with local county fair rules on exhibiting.

Level 1

Level 2

Level 3

Level 4

Level 5

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

- M**4-H Training Horses - Yearlings to Five-Year-Old, 5336, \$3.50
- M**4-H Colt to Maturity Manual, 5248, \$3.50

Working Ranch Horse

This project prepares you and your horse for general ranch work including roping, cutting, and penning. You will also learn the heritage and traditions of the American cowboy. Competitions (called gatherings) may be offered at the county or regional level.

Level 1

Level 2

Level 3

Level 4

PROJECT REQUIREMENTS

4-H members may enroll in the 4-H Working Ranch Horse Project independently or concurrently with the Horsemanship Project Levels 1-7 depending on county requirements. Skills assessments determine the project level of each participant and are conducted on the county level.

MATERIALS

MMontana 4-H Working Ranch Horse Manual (contains all 4 levels), 5250, \$7.50

Horse Packing

This project develops your knowledge and skills in the art and science of using horses to transport materials. This project also provides opportunities for enjoying nature in a way that is otherwise difficult. Members may enroll in this project simultaneously with any other mounted horse project.

Level 1

Level 2

Level 3

Level 4

Level 5

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M4-H Horse Packing Manual, 5251, \$3.50

Horse Driving

This is a project to teach you basic horse driving skills, safety and training a horse to drive in single or multiple hitches. Members must have completed assessment for horse projects to participate in this project.

Level 1

Level 2

Level 3

Level 4

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M4-H Horse Driving Project Manual, 5252, \$3.50

Horse Showing

This project teaches you to select, train and maintain your horses for showing. This project will help you become an adept and knowledgeable horseman or horsewoman. It will also help you learn to plan and conduct shows and clinics. Members may enroll in this project simultaneously with any other mounted horse project.

Level 1

Level 2

Level 3

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M4-H Horse Showing Project Manual, 5253, \$3.50

Horse Judging

This project teaches you to select and evaluate horses, give oral reasons and place classes of conformation horses and performance horses. Members may enroll in this project simultaneously with any mounted horse project.

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M New Mexico 4-H Horse Judging Manual, NM200R48, \$3.50

Green Horse

This project is for those who have horses that are not fully trained, but don't fit into the colt to maturity project because of age or ability. To participate in this project, you must be 11 on Oct. 1; have completed Horsemanship levels 1, 2 and 3; and have demonstrated an ability to handle the project to the county horse leader or designated person.

Level 1

Level 2

Level 3

Level 4

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M4-H Green Horse Project Manual, 5256, \$3.50

M4-H Training Horses - Yearlings to Five-Year-Old, 5336, \$3.50

Careers with Horses

This project is intended to acquaint you with careers in the horse industry and may be taken simultaneously with any mounted horse project.

PROJECT REQUIREMENTS

The Project Leader or Agent can assist the member in setting goals for each project year. Completion of these goals will satisfy the requirements of this project.

MATERIALS

M4-H Horse Careers Manual, 5255, \$2.50

Horse Independent Study *(see pg 7)*

POCKET PETS

Pocket Pets helps you learn about small hand pets and how to care for them. This is an excellent beginning project, especially if you are a younger member who wants to learn what it's like to care for an animal. You will develop important life skills and practical skills through hands-on activities that will teach you about your pet's needs. Pets included in these materials are ferrets, snakes and turtles, hamsters, gerbils, mice, fish, frogs and toads, lizards, birds, guinea pigs and others.

Pet, Level 1

This project will help you learn about different kinds of pets, costs to raise them and how to care for them. You'll also be learning about yourself, too. You'll learn how to communicate effectively with others, how to make good decisions, how to be responsible and how to plan and organize.

PROJECT REQUIREMENTS

You must complete at least seven activities and three learning experiences each year to complete this project. It may take up to three years to complete the project.

MATERIALS

- MPet Pals, BU6359, \$6.00
- LPet Helper's Guide, BU6362, \$6.00

Pet, Level 2

Level 2 will help you expand your knowledge of pets and improve your life skills. Some of the things you'll learn about include an animal's digestive system, pet breeding, nutritional requirements for pets, comparison shopping, signs of good animal health and how pets communicate.

PROJECT REQUIREMENTS

You must complete at least seven activities and five learning experiences each year to complete this project. It may take up to three years to complete the project.

MATERIALS

- MScurrying Ahead, BU6360, \$6.00
- LPet Helper's Guide, BU6362, \$6.00

Pet, Level 3

This project provides you with several opportunities to develop your leadership and communication skills as you strive to complete Level 3 of the achievement program. You'll also find activities to help you develop a business, explore careers and teach others. You'll learn about genetics, how to start your own business, the pet industry, explore animal welfare issues, think environmentally, investigate "pet" sayings and learn about pet diseases.

PROJECT REQUIREMENTS

You must complete at least seven activities and five learning experiences each year to complete this project. It may take up to three years to complete the project.

MATERIALS

- MScaling the Heights, BU6361, \$6.00
- LPet Helper's Guide, BU6362, \$6.00

ADDITIONAL PROJECT MATERIALS

- SPocket Pets Resource Handbook, 4H220R, \$12.50

Pocket Pets Independent Study *(see pg 7)*

Pet Helper's Guide, BU6362, \$6.00

Find many fun and engaging group games and activities to further expand the pet project experience for youth.

POULTRY

Poultry is designed to help you learn about chickens and other poultry. Through this project, you will acquire an understanding of scientific poultry management and marketing practices. You will also gain business experience and insight into the values and principles of purchasing, marketing, financial record keeping and obtaining credit. In addition, this project will help you understand the poultry industry and its role in agriculture and the economy.

Poultry, Level 1

Through the activities in this level, you will learn about poultry and egg parts, breeds, costs to raise poultry, how to prepare for chicks, how to care for and handle your birds, how to select pullets, showing poultry and more. You'll also be learning about yourself, too. Through your work in this level, you will learn how to speak to groups, work with other people, make decisions, take risks, plan, organize and be responsible.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- MScratching the Surface, BU6363, \$6.00
- LPoultry Helper's Guide, BU6366, \$6.00

Poultry, Level 2

This level offers you new challenges and opportunities to explore a wide range of activities. You'll learn about egg production, the skeletal structure of birds, pecking orders, and how to: select and judge broilers, recognize a healthy flock, prevent diseases of poultry flocks, select breeding pens, read a feed tag, make an egg Candler and build a budget.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- MTesting Your Wings, BU6364, \$6.00
- LPoultry Helper's Guide, BU6366, \$6.00

Poultry, Level 3

Learn about how to organize a judging clinic, how to manage a laying flock, how genetics influence poultry characteristics, how to handle poultry products safely, how to process chickens for food, about advances in biotechnology and careers in the poultry industry.



PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**Flocking Together, BU6365, \$6.00
- L**Poultry Helper's Guide, BU6366, \$6.00

ADDITIONAL PROJECT MATERIALS

- M**4-H Poultry Production: Raising Pullets, OH151, \$8.00
- M**4-H Poultry Production: Raising Broilers, OH152, \$8.00
- M**Poultry Feed Sheet, 2FM093, 4-H website
- S**National Poultry Judging, 4H460, \$7.50
- S**Beginner's Guide to Raising and Showing Chickens, DVD-3, \$16.00
- M**4-H Poultry Fitting & Showmanship, 4HDL01, download only, Extension online store

Poultry Independent Study *(see pg 7)*

Poultry Helper's Guide, BU6366, \$6.00

Guide youth by using this book to lead 15 learn-by-doing group activities.

RABBIT

You will gain knowledge and skills in managing and caring for rabbits, selecting quality rabbits, feeding balanced rations and maintaining management records on which to base decisions regarding feed, production and breeding. You will also have opportunities to participate and assume responsibility in the 4-H rabbit program.

Rabbit, Level 1

This project is designed for the beginning rabbit member with little or no experience in raising rabbits. By the end of the project, you will be able to name several breeds of rabbits, identify the parts of the animal, discuss the sanitation methods needed to raise rabbits, describe good feeding and watering practices, learn to keep feed and financial records and demonstrate proper showmanship procedures.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**What's Hopping? BU8080, \$6.00
- L**Rabbit Helper's Guide, BU8083, \$6.00

Rabbit, Level 2

The intermediate level project is designed for 4-H members who wish to expand upon their knowledge gained in the previous level. The level is designed to be completed in 2-3 years.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**Making Tracks, BU8081, \$6.00
- L**Rabbit Helper's Guide, BU8083, \$6.00

Rabbit, Level 3

Level 3 of the rabbit project is designed for those who want to explore interest areas of rabbit production. Chapters include Breeding and Genetics, Diseases, Keeping Records, Marketing and Tanning Hides. Select four to five required activities each year to complete. Youth may participate in this level for three years.

PROJECT REQUIREMENTS

This level may take up to three years to complete. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**All Ears, BU8082, \$6.00
- L**Rabbit Helper's Guide, BU8083, \$6.00

ADDITIONAL PROJECT MATERIALS

- S**Rabbit Resource Handbook for Breeding, Market and Pet Projects, 4H228R, \$13.50

Rabbit Independent Study *(see pg 7)*

Rabbit Helper's Guide, BU8083, \$6.00

Fifteen exciting rabbit group activities make group learning fun and educational.

SHEEP

In this project, you will learn a lot about the modern sheep industry either by directly caring for a lamb or by learning about sheep through the achievement program in each level. You may enroll in either a market lamb or breeding project at any level. **Youth wishing to enroll in Market Sheep or Breeding Sheep must also be enrolled in Level 1, 2, or 3.** If you enroll in the independent study, you must have already completed all three levels of the sheep project and set learning goals for your independent work.

Sheep, Level 1

Enroll in Market and/or Breeding on form if desired

The activities in Sheep Level 1 are for youth who may or may not have their own lamb, but want to learn more about sheep. In this level, you will learn to identify the parts of a lamb, about the breeds of sheep, sheep behavior, uses of wool, about sheep by-products, fitting a sheep for show, showing a sheep, how to determine the health of a lamb, judging lambs and how to develop a management plan.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**Rams, Lambs and You, BU6367, \$6.00
- L**Sheep Helper's Guide, BU6370, \$6.00

Sheep, Level 2**Enroll in Market and/or Breeding on form if desired**

In level 2 you'll learn more about the sheep project, including sheep parasites, meat safety, judging, using medications safely, the digestive system of sheep, health problems, management practices, careers, sheep production cycles, managing money, meat cuts and more.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Shear Delight, BU6368, \$6.00
- L**Sheep Helper's Guide, BU6370, \$6.00

Sheep, Level 3**Enroll in Market and/or Breeding on form if desired**

As an advanced member in the sheep project you gain leadership skills as you help others learn about sheep. In this level you are encouraged to teach others about sheep, explore career opportunities in the sheep industry, set production goals and make a budget for a sheep enterprise. You can also plan and conduct a sheep event in your community, address contemporary issues related to sheep production, learn about marketing and reproduction, plan and organize a judging contest and explore genetics.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Leading the Flock, BU6369, \$6.00
- L**Sheep Helper's Guide, BU6370, \$6.00

ADDITIONAL PROJECT MATERIALS

- M**Livestock Feed Sheet, 2FM099, 4-H website
- S**Sheep Resource Handbook for Market and Breeding Projects, 4H194R, \$28.00

Sheep Independent Study (see pg 7)**Sheep Helper's Guide, BU6370, \$6.00**

Helpers will enjoy involving youth in sheep skillathons, sheep bingo, sheep pyramid, developing a management calendar and many more activities.

SWINE

The Swine Project is an excellent way to learn about the pork industry. Through this project, you can learn about all aspects of the pork industry, either by directly caring for a hog or by learning about swine. At any level you may enroll in market pig or breeding pig. **Youth wishing to enroll in Market Swine or Breeding Swine must also be enrolled in Level 1, 2, or 3.** If you enroll in the independent study, you are expected to have already completed the three levels of the swine project and to have set some learning goals for your independent work.

Swine, Level 1**Enroll in Market and/or Breeding on form if desired**

Activities in Swine Level 1 are for youth who may or may not have their own pig. If you don't own your own pig, these activities will help decide if you really want to raise pigs or learn more. In this level, you will learn to identify the parts of a pig, breeds, how to judge market hogs, explore the digestive system, identify pork cuts and how to fit and show a hog.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and three learning experiences each year to complete this project.

MATERIALS

- M**The Incredible Pig, BU8065, \$6.00
- L**Swine Helper's Guide, BU8068, \$6.00

Swine, Level 2**Enroll in Market and/or Breeding on form if desired**

In this level, you'll learn about herd health, pork production from farrow to finish, cooking and preparing pork products, careers in agriculture, symptoms of swine disease, and how to: develop a pig health plan, balance a ration, and present oral reasons on a class of hogs.

PROJECT REQUIREMENTS

It may take three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Putting the Oink in Pig, BU8066, \$6.00
- L**Swine Helper's Guide, BU8068, \$6.00

Swine, Level 3**Enroll in Market and/or Breeding on form if desired**

You will be encouraged to teach others about pigs, explore career opportunities in the swine industry, organize a judging and showmanship clinic, plan a swine quiz bowl, operate and manage a swine breeding operation, learn about managing waste and explore genetics.

PROJECT REQUIREMENTS

It may take as long as three years to complete this level. You must complete a minimum of seven activities and five learning experiences each year to complete this project.

MATERIALS

- M**Going Whole Hog, BU8067, \$6.00
- L**Swine Helper's Guide, BU8068, \$6.00

ADDITIONAL PROJECT MATERIALS

- S.....Swine Resource Handbook for Marketing and Breeding Projects, 4H134R, \$20.00
- S.....Livestock Feed Sheet, 2FM099, 4-H website

Swine Independent Study (*see pg 7*)**Swine Helper's Guide, BU8068, \$6.00**

Group activities such as quiz bowls, skillathons, glossary games, swine pyramid, exploring a meat contest and understanding quality assurance keep youth involved.

VETERINARY SCIENCE

Veterinary Science is designed to help you better understand animals. Knowledge in Veterinary Science assists in the protection of human welfare by applying the art and science of medicine to animals. Inspection of meat and poultry, the care of all food and pet animals, controls for diseases that already affect humans, and how to safeguard our food supply are some of the things you'll learn. You are not required to own an animal to enroll in this project, but it would be helpful if you had one available to study.

Veterinary Science, Level 1

No matter what kind of animal you have, or even if you don't have one, this project will help you learn about animals. It will also help you decide if you want to purchase and care for animals in the future. In this project, you will learn about the normal animal, basic anatomy and body systems, elementary principles of disease and careers with animals.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. Each year you should identify at least four goals and complete a minimum of seven of the activities in Level 1.

MATERIALS

- M..... From Airedales to Zebras, BU8048, \$6.00
- L..... Veterinary Science Helper's Guide, BU8051, \$6.00

Veterinary Science, Level 2

You will learn to create health records for your animal, investigate body systems, discover the importance of immunity, explore biosecurity measures, examine parasite life cycles, recognize the importance of quality assurance, conduct a food safety experiment, investigate disease-causing agents, apply math and science skills, and consider ethics and animal welfare.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. Each year you should identify at least four goals and complete a minimum of seven of the activities in Level 2.

MATERIALS

- M.....All Systems Go! BU8049, \$6.00
- L.....Veterinary Science Helper's Guide, BU8051, \$6.00

Veterinary Science, Level 3

By now, you should be able to share your experience and knowledge with others through some leadership roles in veterinary science. You will learn about genetics and how to describe "typical" animal behavior, conduct an experiment about test reliability, compare reproduction in various species, consider the function of body organs and systems, investigate human-animal bonds, recognize the importance of animal population control and explore careers in veterinary science.

PROJECT REQUIREMENTS

You may take up to three years to complete this level. Each year you should identify at least four goals and complete a minimum of seven of the activities in Level 3.

MATERIALS

- M.....On the Cutting Edge, BU8050, \$6.00
- L.....Veterinary Science Helper's Guide, BU8051, \$6.00

Veterinary Independent Study (*see pg 7*)**Veterinary Science Helper's Guide, BU8051, \$6.00**

Numerous group activities help youth develop essential life skills as they pursue their interest in veterinary medicine.



Engineering and Technology

AEROSPACE

Aerospace involves the fascination of flying an airplane, launching a rocket, conquering space and becoming an astronaut or pilot. Through fun and challenging activities, you will learn about flying, kites, hot air balloons, remote control airplanes, gliders and space shuttles.

Aerospace, Level 2

Whether you have just started exploring aerospace or already know about rockets, hot air balloons, airplanes and kites, you'll enjoy the activities in Lift Off. In this project, you'll learn how to build a straw rocket, make a paper airplane, build a real model rocket, make and read a map, identify airplane models, investigate how weather affects flying, identify parts of a hot air balloon, discover how "angle of attack" affects kite flying and more. Explore your flight plan, select your aerospace helper and complete the Lift Off achievement plan.

PROJECT REQUIREMENTS

You should complete a minimum of seven activities and three leadership experiences each year (such as giving a demonstration, participating in a judging activity, taking a tour, exhibiting your project, or attending a workshop). You will need to complete a total of 20 activities to complete this level. You may take three years to complete this level of the aerospace program.

MATERIALS

- M.....Lift Off, BU6843, \$6.00
- L.....Flight Crew Helper's Guide, BU6846, \$6.00