



CLOVER

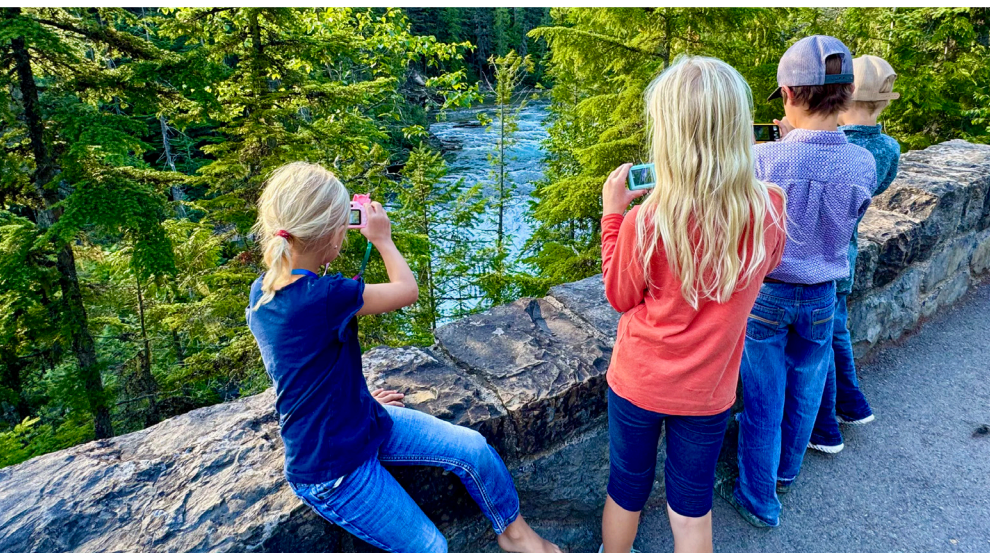
Montana 4-H Project Selection Guide 2026–2028

Head

Heart

Hands

Health



4-H EMPOWERS KIDS WITH THE SKILLS TO LEAD FOR A LIFETIME



MONTANA
STATE UNIVERSITY

EXTENSION



Dear 4-H Members, Parents and Leaders,

What gets you excited each day? Do you have a knack for thinking outside of the box and finding creative solutions? Do you have a kind, loyal and generous heart to care for others? Do you enjoy working with your hands to serve the people around you? Are you committed to becoming strong and healthy? If so, 4-H is the place for you. 4-H is all about “Making the Best Better” which results when you pledge your Head to clearer thinking, your Heart to greater loyalty, your Hands to larger service and your Health to better living.

With numerous opportunities available, you can choose a wide variety of 4-H projects in the categories of science, citizenship, and healthy living. The Clover provides a brief overview of 4-H projects and the resources needed to get you to the next level. Don't see one that sparks your interest? Create your own! Challenge yourself to explore a new topic with the Independent Study/Advanced or Design Your Own projects. As you participate in 4-H, you will have the chance to do what you love and develop valuable life and work readiness skills to succeed in the present and future.

Youth can thrive in 4-H with engaging activities for various ages, experiences, and skill levels, coupled with leadership and instruction from safe, caring adults, provided in a healthy environment. Everyone plays an important role, and your time in 4-H will lead to unforgettable friendships and memories of a lifetime. What are you waiting for? Join today and explore the possibilities. We can't wait to meet you!

Sincerely,

Teri Antilley, Ph.D.

Director,

Montana 4-H Center for Youth Development



Photos: (front cover, top row and bottom left) National 4-H Council; (front cover bottom right) E. Brush Photography; (this page) E. Brush Photography; (back cover, left to right, top to bottom): Juli Thurston, Tom Aldrich, National 4-H Council, E. Brush Photography, National 4-H Council

Order Online

Download or purchase project materials online:

'Shop 4-H' items at shop4-h.org

Note: Inventory numbers listed in bold can be purchased online at shop4-h.org.

'4-H website' items at montana.edu/extension/4h

'Available free online' items at extension-store.montana.edu (Extension Publications) or ask your leader or MSU Extension agent

MSU Extension's online store: extension-store.montana.edu

Note: Pricing is dynamic on websites and subject to change. Check online for current prices at designated vendors.

4-H Publications

Extension Communications is located at 135 Culbertson Hall.

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4-H Events Calendar

National 4-H Events

- National Congress, Atlanta (Award Trip): Last week November
- Western 4-H Roundup, Denver (Award Trip): First week January
- National Conference, Washington DC: April
- Ignite Conference, Washington DC: March

Montana 4-H Events

- Working Ranch Horse Finals: September
- State Horse Show: September
- 4-H Volunteer Institute: Fall
- Ambassador Teen Leader Fall Training: first week November
- Legislative Breakfast: MLK weekend (odd years)
- Citizenship Seminar: In conjunction with Legislative Breakfast
- State Shoot: First week March
- Rec Lab: March/April
- Pre-Congress: Prior to Congress
- Congress: Second week July

Award Due Dates

- Scholarships: February 14
(Recognition at Montana 4-H Congress)
- Youth State Awards: May 1
(Recognition at Montana 4-H Congress)
- Volunteer Awards: May 1
- Ambassador Officer Team Applications: June 15
(Officer Selection during Pre-Congress)*

* = Youth Leadership



Scan this QR code to view the complete Montana 4-H yearly calendar.

Montana 4-H Foundation

Gillette Vaira, Director & Development Officer
Major Gift Acceptance and Fundraising, Overseeing Investment Portfolio and Budget, Education and Marketing

Kelsey Proue, Program Manager
Fiscal Records, Database and Publications, Coordination of Board of Director Functions

Welcome to Montana 4-H

The Montana 4-H Center for Youth Development serves as a resource to county faculty, local leaders, and youth in all counties and reservations as they learn by doing and make the best better. Listed below are staff members and their major areas of responsibility associated with their position.

4-H Center for Youth Development

Teri Antilley, Director, Montana 4-H Center for Youth Development
State Program Leader; Policies & Procedures; Connecting with MSU Legal; Support and resources for 4-H; Ongoing issues not resolved at county level; Representing/speaking at Montana 4-H events & programs; Evaluation; Group Enrollment

Sadie Woller, Business Operations Manager
Chartering clubs, State event registrations, Background checks, Finances/invoices and Taxes/IRS filing, Gold Seals/Volunteer certificates, ZSuite Enrollment, website and social media

Brett Schomer, Youth Leadership Specialist
Youth leadership program resources; 4-H Teen Leaders and County Ambassadors; State Ambassador Officer Team; National 4-H Congress and Youth State Awards; State events: Fall Leadership Training & Leadership Academy, Citizenship Seminar and Legislative Breakfast, Montana 4-H Congress

Josie Evenson, Curriculum & Regional Specialist
Clover project guide, 4-H Curriculum Development Management and Evaluation, project resources support, Camp planning and program delivery, Eastern Region support

Kelton Jensen, Volunteer & Regional Specialist
Volunteer Certification process, Volunteer/Parent issues, Volunteer training and recognition, working with Councils and Committees, 4-H Club roles, Western Region support

Amy Kelley, Ag/Natural Resources & Regional Specialist
Animal Science training and resources, Animal waivers and policies, Animal Quality Assurance, and Animal and Natural Resource project statewide programs and events, Central Region support

Tracey Robecker, College and Career Readiness Specialist
College and career exploration and readiness program planning, Beyond Ready initiative, Citizenship Seminar

Scott Francis, Outdoor Education Program Manager
Shooting Sports, Sport fishing, Wildlife & Conservation, Outdoor education

Dave Brink, Interim International Exchange Programs Coordinator
Short term Outbound International Exchanges, Short term Inbound International Exchanges, High school Academic Year Program, IFYE USA cultural exchange of adults (19-30)

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4-H PRIORITY INITIATIVES

Beyond Ready

Montana 4-H is part of the national 4-H Beyond Ready initiative to prepare youth to become healthy, productive, and engaged leaders who are ready for work and life.

Through hands-on learning and positive youth development, 4-H helps young people build confidence, leadership, communication, teamwork, and problem-solving skills while discovering their interests and strengths. By creating meaningful opportunities for growth and connection, Montana 4-H empowers youth to thrive in an ever-changing world.

4-H projects and programs help youth explore real-world experiences in areas such as agriculture, science, technology, healthy living, leadership, civic engagement, creative arts, and career readiness. Whether learning through robotics, livestock projects, nutrition and cooking, outdoor education, entrepreneurship, public speaking, or service-learning opportunities, youth gain practical skills and experiences that prepare them for future success. Through these project areas, young people are encouraged to explore new interests, develop responsibility, and grow skills that extend far beyond the 4-H experience.

The Beyond Ready initiative recognizes that preparing youth for the future goes beyond academics alone. Montana 4-H focuses on helping youth build a strong sense of belonging, meaningful relationships with peers and caring adults, and the ability to adapt, lead, and contribute within their communities. Through clubs, camps, workshops, competitions, leadership opportunities, and community partnerships, 4-H supports youth in becoming engaged citizens and confident leaders who are ready to make a positive impact now and in the future.

4-H Membership/Age Requirement

Any youth who is 5 years old on or before Oct. 1 may join a 4-H Cloverbud group.

Cloverbuds is a non-competitive educational program for youth ages 5 to 7 years of age and is the ONLY project they can enroll in.

Youth age 8 on or before Oct. 1 may join a regular 4-H club as a full member who can enroll in several different projects. Given the differing maturity and ability of youth this age, a family may choose to have their child continue in a Cloverbud group even though s/he will turn 9 during the coming year. If a youth is 19 years of age on or before Oct. 1, s/he is not eligible to re-enroll in 4-H unless still in high school.

4-H membership is open to all eligible youth. The U.S. Department of Agriculture (USDA), Montana State University and Montana State University Extension prohibit discrimination in all of their programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital and family status.

In recognition of the educational and developmental needs of youth, a general guideline is listed below to help determine which level of projects a youth might be enrolled in based on age.

Individuals older than 18 years of age who have special needs are eligible to participate in 4-H provided they are still enrolled in high school.

Classifications

Age Range

Cloverbuds

5 to 7 years old

Junior/Intermediate

8 to 13 years old

Senior

14 to 19 years old

4-H Clover Project Guidelines

The projects listed are all state supported projects available to Montana 4-H members. Each project is followed by a description and listing of the materials needed to complete the project.

IMPORTANT NOTE: Check with your 4-H leader or Extension agent to see which projects are offered in your area. Not all projects listed in this guide may be available in your community.

ADDITIONAL NOTES: Projects should be completed in order, starting with Level 1. Publication number is needed to order materials. Prices subject to change.

Additional Projects

Some counties offer projects in addition to those listed in this publication. These projects usually meet a specific need within the county 4-H program. If you are interested in these, contact your MSU Extension office to find out more. Many projects also have opportunities for sharing and learning about your unique skills and talents through project achievement programs. Contact your Extension office to find out how to meet these goals.

4-H Volunteerism Opportunities

Volunteerism and Leadership involves youth and adults in significant roles where they can help facilitate the growth and success of others. Opportunities to contribute in meaningful ways to your club, your community, your country and your world can be varied and numerous. Through these projects, you can help others, serve as a mentor, tutor or coach, and fill important leadership roles that contribute to the overall vitality of your community.

Keeping Records

Keeping records is an important part of completing each project. They help you set goals, keep track of your attendance at meetings, record your demonstrations or talks and a whole lot more.

All 4-H projects require the use of record books. See page 44 for record keeping materials or visit the 4-H website: montana.edu/4h record book page.



Project Requirement Examples

Learning Experiences: Learning activities that are not outlined in the required or optional activities. Examples include: attend project meetings, workshops, classes or clinics, tours; interview an expert, give a demonstration or speech, compete in contests, skill-a-thons or quiz bowls; read books, magazines, research articles, science-based blogs or website; view television or videos.

Leadership Experiences: Leadership activities that are not outlined in the required or optional activities. Examples include: share knowledge with others, mentor younger members, organize a workshop, activity or event, help leaders implement project meetings, create educational materials for others, give a demonstration or speech.

Citizenship Experiences: Citizenship Activities that are not outlined in the required or optional activities. Examples include: community service events, helping others that are not family, using income from a project to assist others, volunteering in any capacity.

Using this Guide

This guide lists all projects offered on a statewide basis to youth enrolling in 4-H clubs in Montana. As you look for projects, all the information needed to enroll is here in the guide. See the example [below].

- M Materials for the 4-H member enrolling in the project
- L Materials for 4-H leaders
- S Supplemental materials for leaders and/or members. These materials are optional.

Example of a project listing and how to use it:

Cat (Subcategory Title)

The Subcategory Title section gives a general description of what can be learned by completing the projects within.

Cat, Level 1 (Project Title & Level)

Project Pre-requisite

The Project Title & Level section gives a more specific description of a project, what is involved and what can be learned. As levels increase, so do project requirements and learning challenges.

Project Requirements – This section explains what is needed to complete a project book and finish the project.

Materials – This section provides a material list for members and leaders. See letter key [above].

M Purr-fect Pals, BU8148, \$7.25 (Material name, publication number and cost)

L Cat Group Helper's Guide, BU8151, \$10.50

Additional Resources for All Levels

(Additional project resource material will be listed at the end of each project section.)

End of example.

CLOVERBUD

Members age 5-7 enroll in Cloverbud

Montana 4-H includes a special program for youth ages 5 to 7 called Cloverbuds. Youth work with other children on 4-H activities from a structured curriculum that is fun, hands-on and discovery-oriented. Youth of this age group enroll ONLY in this project to explore animal and traditional projects, but can't enroll in them. Through Cloverbuds, children develop age-appropriate skills and abilities. Guidelines for this project differ from those of traditional 4-H program; all Cloverbud activities are non-competitive.

Each Cloverbud Activity Book is designed to use for one year. Rotate through books in the three years a member may be a Cloverbud. Cloverbud Activity Books introduce a variety of 4-H areas. The booklets provide activities in Animal Sciences/Animal Life, Visual Arts, Family, Home, Health, Science and Natural Resources. The record sheet is included in the project book.

- M 4-H Cloverbud Activity Book A, 4HDL13, available free online
- M 4-H Cloverbud Activity Book B, 4HDL14, available free online
- M 4-H Cloverbud Activity Book C, 4HDL15, available free online

EXPLORE MORE

Exploring 4-H, Beginning Members

If youth are curious about the projects 4-H offers, this project may be for them. Members will discover new interests and find inspiration by exploring all that 4-H has to offer. The activities in Exploring the Treasures of 4-H help new members, in grades two through four discover the hidden treasures of 4-H and find inspiration for potential projects in the future.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M Exploring the Treasures of 4-H: Fun Friends and Learning, Youth Guide, **BU8171**
- L 4-H Exploring the Treasures of 4-H Helper's Guide, **BU8172**

Design Your Own

Design Your Own offers an opportunity to develop and carry out a project with a personal plan. This means selecting a topic, deciding goals, obtaining resources and designing records. The member is responsible for developing the project with the advice or direction of an adult. This project can cover any subject and may be related to any current 4-H project. The member's manual and leader's guide suggest ways to proceed.

Evaluate the project by determining the extent to which the goals were accomplished, what was learned and how it could be improved. The individualized learning plan should be approved by a parent, 4-H adult volunteer leader or 4-H agent. For assistance with developing a personal learning contract, use the Design Your Own project materials or other goal-setting resources.

- M You Decide, 5314, \$3.50
- L Helping Them Decide, 5315, \$2.50

Independent Study/Advanced

Independent study is for youth looking for new challenges and opportunities in 4-H. This allows a member to explore topics that have not been investigated while remaining enrolled in a 4-H project. Members enrolling in the independent study phase of a project should develop a detailed learning plan for their work. They should identify an area of interest within the project area, set goals and locate resources (people, publications, materials) to carry out a project plan. They then determine specific experiences needed to accomplish project goals, set a realistic timeline for completion, carry out the project learning plan, share experiences with others, evaluate outcomes and determine what could be improved.

The individualized learning plan should be approved by a parent, 4-H adult volunteer leader or 4-H agent. For assistance in

developing a personal learning contract, use Design Your Own project materials or other goal-setting materials. While independent study provides flexibility and creativity, it also requires serious planning, implementation and evaluation.

- M You Decide, 5314, \$3.50
- L Helping Them Decide, 5315, \$2.50

ANIMAL SCIENCE

Animal Science projects teach subject matter related to each animal while helping youth develop life skills. In each level, youth choose from a variety of learning experiences to develop an inquiring mind and a desire to seek out the scientific principles involved in raising animals. Youth can develop leadership, initiative, self-reliance and sportsmanship through project activities. Youth will learn to accept responsibility by having an animal to care for regularly and the principles of animal nutrition.

Through animal science projects, youth also learn to care for, train and handle animals safely. Youth will better understand and apply research in making wise decisions and investments and use it in managing animals. It is important that families discuss the reality of owning and caring for all animals. All animal projects require time and resources.

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 who are truly enthusiastic about projects the members are taking. It is important that adults provide supervision, assistance and encouragement to the 4-H members they work with. If adults are willing to help in these ways, it will make a difference in the life of a young person. However, adults need to be aware that while assisting is clearly important, it is equally important that adults not go too far with helping. It is important for caring adults to support and assist to a reasonable extent, but not to complete the chores and requirements for the project. 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 resources that livestock projects require. Livestock projects will require a minimum of one hour daily to meet basic needs, such as feeding, watering and veterinary care. Market beef projects typically start in November or December and continue through July or August. Pig, sheep and goat market projects start in April or May and continue through July or August. Horse, dairy cattle and goats, rabbit, poultry, and breeding projects are a year-round commitment for both the member and family. Training and preparing an animal for show will take several additional hours per day throughout the year.

Each county fair or show in Montana will have its own unique policy and guidelines. It is the members' and parents' 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 family obtain a copy of the county information that is specific to their project before they start the project.

Making a Decision

When a family has decided to commit to the responsibility of owning animals and supporting youth members in taking a livestock project, they should work through the following questions as a family to help prepare them for animal ownership.

- Which Project?
- 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 who 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 for a family to gather information is to attend a livestock show. At the show, parents and members will see some of the work and commitment that go into a livestock project. In addition, it is a great chance for the family to meet and talk to exhibitors

and producers. Most of these people are happy to share thoughts and suggestions. It is important to develop good relationships with other producers as they are a great source of information.

Montana 4-H Animal Quality Assurance Policy

Montana 4-H believes in the ethical treatment of all animals. As part of this mission, all 4-H members (and a parent or guardian) enrolled in any animal 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. Format of training offered and requirements for certification and recertification can vary depending on county/reservation, so discuss options with your local agent.

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 successes and be recognized for 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.

Beef

The beef project gives youth hands-on opportunities to explore Montana's beef industry by caring for animals, building management skills, and applying knowledge through real-world experiences. Youth wishing to enroll in Market Beef or Breeding Beef must also be enrolled in Level 1, 2, or 3.

Beef, Level 1

Enroll in Market and/or Breeding in ZSuite

Level 1 activities allow youth to learn about beef production and investigate the basics of raising beef cattle for a market and/or breeding project. Activities utilize a variety of learning styles, recommended video resources, and hands-on opportunities that integrate the 4-H experience throughout the project year. At this beginner level, youth will learn about cattle selection, basic nutrition and management, how to work with and care for cattle safely, and more. The activities were written for use with the Ohio State University Beef Resource Handbook. It is recommended to purchase one resource book per family or reach out to your local Extension office to borrow a copy.

Complete seven activities from five different chapters each year to complete the project, and complete three 'Talk it Over' sections prior to completing the project book. It may take up to three years to complete this level.

- M Growing 4-H Beef, Level 1, 5369, \$8.50
- M Beef Resource Handbook for Market, Breeding and Feeder Calf Projects, 4H117R, \$23.50
- L Growing 4-H Beef, Level 1 Answer Key, 5370, available free online

Beef, Level 2

Enroll in Market and/or Breeding in ZSuite

In this level, 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.

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

- M Here's the Beef, **BU8144**, \$8.50, *note Level 2 new book coming soon

Beef, Level 3

Enroll in Market and/or Breeding in ZSuite

Advanced members have several opportunities to share their knowledge and experience about beef cattle with other members. Youth will also gain leadership skills as they help others learn about cattle. In this level, youth teach others about beef cattle, explore career opportunities, and learn about selection, judging, fees, health, reproduction, meat, and marketing.

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

- M Leading the Charge, **BU8145**, \$8.50

Additional Resources for All Levels

- L Beef Resource Handbook for Market, Breeding and Feeder Calf Projects, 4H117R, \$36.50
- L Beef Helper's Guide, **BU8146**, \$8.50. Find a variety of group learning activities, including skill-a-thons, quiz bowls, games, presentations, Beef Bingo and several management skill activities.

Beef Independent Study/Advanced (see pg 8)

Dairy Cattle

The Dairy Cattle project provides youth with hands-on experience caring for and managing dairy animals while learning about animal health, milk production, and recordkeeping.

Dairy Cattle, Level 1

This level is for beginners who may or may not own dairy cattle. Through the activities in this level, members will learn about the parts of a dairy cow, various dairy breeds and the cost to raise a calf, how to care for a dairy animal and how to recognize desirable traits when selecting calves. Youth will also learn how to care for a dairy animal and how to recognize desirable traits when selecting calves.

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

- M Cowabunga!, **BU8161**, \$7.25

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. Youth will also learn about ethical decision-making, judging and careers. Youth explore dairy cattle breeds, select calves, identify body parts, recognize desirable traits, pack a show box, groom and show a calf and identify stages of calving and care.

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

- M Mooving Ahead, **BU8162**, \$7.25

Dairy Cattle, Level 3

Advanced youth practice and learn about body condition scoring, selecting cattle through records, mastitis detection, balancing a ration, pregnancy detection, delivery of calves, promoting dairy products and exploring career opportunities.

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

- M Rising to the Top, **BU8163**, \$7.25

Additional Resources for All Levels

- L Dairy Resource Handbook, 4H127R, \$31.50
- L Dairy Cattle Helper's Guide, **BU8164**, \$7.25. Four chapters include Cow Talk Glossary Terms, Pedigree Power, a dairy pyramid game and dairy skill-a-thon as well as other resources.

Dairy Cattle Independent Study/Advanced (see pg 8)

Cat

Cat will help youth learn more about one of our most common household pets. Explore all kinds of things about cats including nutrition, showing and basic care and companionship.

Cat, Level 1

This level is for youth who may or may not have their own cat. This project allows youth to learn more about cats and care for animals. Members will also learn about breeds of cats, the cost of raising a cat, how to care for and groom a cat and much more.

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

M Purr-fect Pals, **BU8148**, \$7.25

Cat, Level 2

After completing level one, youth advance to level two. Learn about organizations with information about cats, how to show a cat, train a cat, about careers related to cats, how to read and understand a feed label, about external parasites that affect cats and more.

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

M Climbing Up, **BU8149**, \$7.25

Cat, Level 3

Designed for advanced members, this project offers a variety of ways to share knowledge and experience and develop leadership skills. In this level, 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.

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

M Leaping Forward, **BU8150**, \$7.25

Additional Resources for All Levels

M 4-H Cat Project, EM4809, \$3.50

M Cat Fitting and Showmanship, EM4810, \$3.50

L Cat Helper's Guide, **BU8151**, \$10.50. Find group activities in this guide – an excellent way to involve everyone in learn-by-doing cat project sessions.

Cat Independent Study/Advanced (see pg 8)

Dog

The dog project is perfect for youth who are interested in learning more about dogs, how to care for them, and how to train them in basic or advanced commands. Youth wishing to enroll in Obedience and Agility must also be enrolled in Level 1, 2 or 3.

Dog, Level 1

Enroll in Obedience and/or Agility in ZSuite

This level is for members who may or may not have a dog of their own but want to learn more. If youth don't have a dog, some activities at this level may help them decide whether they want to commit to owning and caring for one. Members learn about basic care, training, breeds, parts of the dog, and how to keep a dog healthy and groomed.

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

M Wiggles and Wags, **BU8166**, \$7.25

Dog, Level 2

Enroll in Obedience and/or Agility in ZSuite

In this level, youth explore more dog health, nutrition, care, training and showmanship. Youth create a dog care budget, investigate inherited problems of dogs, conduct a safety inventory, select dog food, observe veterinary procedures, teach dogs to do tricks, compare boarding kennels, and more.

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

M Canine Connection, **BU8167**, \$7.25

Dog, Level 3

Enroll in Obedience and/or Agility in ZSuite

At this advanced level, youth will investigate responsible dog breeding, diseases, geriatric dog care, training, service dogs and roles and careers related to dogs. Youth will also learn to assess a dog's vital signs, explore functions of the dog's body systems, conduct a training class for puppies and identify dog ownership laws.

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

M Leading the Pack, **BU8168**, \$7.25

Additional Resources for All Levels

L Dog Resource Handbook **4H140R**, \$31.50

L Dog Helper's Guide, **BU8169**, \$7.50. Group games and activities provide helpers with ideas for facilitating learning. Service-learning opportunities are encouraged. Training activities and resources are highlighted.

Dog Independent Study/Advanced (see pg 8)

Dairy Goat

The dairy goat project allows members to raise a goat for milk, mohair, or even for packing. Youth wishing to enroll in Breeding Goat must also be enrolled in Level 1, 2 or 3.

Dairy Goat, Level 1**Enroll in Breeding when registering in ZSuite**

Youth will learn about both dairy goats (raised primarily for milk) and Angora goats (raised for mohair). Youth will also learn about goat anatomy, breeds, the costs of raising a goat, and how to care for a goat, all while developing important life skills.

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

M Getting Your Goat, **4H08360**, \$8.50

Dairy Goat, Level 2**Enroll in Breeding when registering in ZSuite**

Intermediate learners can explore new challenges, opportunities, and a range of activities related to goats and the goat industry. Youth will learn how to keep a goat healthy, feed for maximum production, prepare for kidding, develop judging skills and milk a goat properly.

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

M Stepping Out, **4H08361**, \$8.50

Dairy Goat, Level 3**Enroll in Breeding when registering in ZSuite**

Experienced members will find fun and challenging activities as they delve into genetics, careers, national industry issues, diseases, biosecurity, body condition scoring, linear appraisal,

breeding programs, pedigrees, dystocia, quality assurance, and leadership opportunities.

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

M Showing the Way, **4H08362**, \$8.50

Additional Resources for All Levels

S Goat Resource Handbook, 4H135R, \$26.50

L Dairy Goat Helper's Guide, **4H08363**, \$8.50. Plan group meetings to get youth involved and excited to learn about goats. Youth will enjoy playing goat-related games, conducting skill-a-thons, giving demonstrations, participating in showmanship contests and other fun group activities.

Dairy Goat Independent Study/Advanced (see pg 8)

Meat Goat

The meat goat project is designed for members who want to learn about 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 in ZSuite**

Youth 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.

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

M Just Browsing, **BU7909**, \$7.25

Meat Goat, Level 2**Enroll in Market and/or Breeding in ZSuite**

In this level, youth will actively explore goat diseases, identify poisonous plants, determine body condition, discover goat predators and learn about selecting and showing meat goats. Members will also learn about goat reproduction and kidding, as well as proper animal husbandry.

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

M Growing with Meat Goats, **BU7910**, \$7.25

Meat Goat, Level 3

Enroll in Market and/or Breeding in ZSuite

In this level, youth 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.

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

M Meating the Future, **BU7911**, \$7.25

Additional Resources for All Levels

S Goat Resource Handbook, 4H135R, \$26.50

L Meat Goat Helper's Guide, **BU7912**, \$7.25. Groups will enjoy planning a program, completing project records, developing a management calendar, conducting a meat quality assurance program, participating in quiz bowls, skill-a-thons, tours, giving a presentation and exploring goat-related careers.

Meat Goat Independent Study/Advanced (see pg 8)

Horse

Horse projects provide youth with an opportunity to handle, care for, ride or drive horses. There are nine 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 based on their 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 checklists are provided in the Horse Project Helper's Guide for leaders to determine when a member completes the levels.

Montana Horse Helmet Policy

A certified equestrian helmet with a safety harness fastened is required in over-fence classes and gymkhana events, activities and practice sessions. Gymkhana refers to horseback speed events (timed or untimed) that do not use livestock. Events 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 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 Horse Safety

Training 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.

L Every Time Every Ride (Horse Helmets), This video is available on YouTube at: <https://www.youtube.com/watch?v=cMyPqLXDirM>

Horsemanship

Western 1-7 or English 1-7

Horsemanship is the basis for the horse project. Youth will learn basic horse safety skills, horse care and nutrition, equipment needed to care for your horse, terminology, horse breeds, coat colors/markings and about businesses and careers that are related to horses. Members must complete Horsemanship levels 1, 2 and 3 before entering Colt to Maturity and Green Horse projects. (See project descriptions for specific assessment requirements.) Horsemanship has seven levels (Western or English).

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.

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

M Horsemanship, Levels 1–3, 5246, \$9.00

M Horsemanship, Levels 4–7, 5262, \$12.75

M Horsemanship Resource Manual, Levels 1–7, 5346, \$8.50

M 4-H Horse Showing Project Manual, 5253, \$6.25

L Every Time Every Ride DVD (Horse Helmets), 5324, \$19.50

L Every Time Every Ride (Horse Helmets), This video is available on YouTube at: <https://www.youtube.com/watch?v=cMyPqLXDirM>

- Visit the Montana 4-H Horse project page to view Additional Horse Project Resources including the Montana Horse Helmet Policy and Horse Helmet Safety Presentation.
- Remember, for the state horse show, youth can show only one level above or below the level in which they are enrolled.

Colt to Maturity, Levels 1–5

Members must be 11 on Oct. 1; have completed Horsemanship levels 1, 2 and 3; and demonstrate the 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.

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 colt. The project is designed to help youth select a foal and train it to maturity. Youth will use the same book for all five levels.

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.

M 4-H Training Horses, Yearlings to Five-Year-Olds and Green Horses, 5336, \$6.25

M 4-H Colt to Maturity, 5248, \$5.00

M 4-H Horse Showing Project Manual, 5253, \$6.25

Green Horse, Levels 1–4

Members 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.

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. Youth will learn how to care for and train their horse. Members will use the same book for all four levels.

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.

M 4-H Green Horse, Levels 1–4, 5256, \$4.00

M 4-H Training Horses, Yearlings to Five-Year-Olds and Green Horses, 5336, \$6.25

M 4-H Horse Showing Project Manual, 5253, \$6.25

Working Ranch Horse, Levels 1–4

Working Ranch Horse is a heritage-based, activity-rich project designed to pass on to today's youth the traditional practices of safe livestock handling from horseback. This project teaches mounted roping skills as a humane and useful livestock handling tool, as well as branding techniques, housing and care of cattle and horses. Members will use the same book for all four levels.

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. 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.

M Working Ranch Horse, Levels 1–4, 5250, \$11.00

Horse Packing, Levels 1–5

This project develops the members' knowledge and skills in the art and science of using horses to transport materials. This project also provides opportunities to enjoy nature in ways that are otherwise difficult. Members may enroll in this project simultaneously with any other mounted horse project. Members will use the same book for all five levels.

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.

M 4-H Horse Packing Manual, 5251, \$3.50

Horse Driving, Levels 1–4

This is a project to teach basic horse driving skills, safety and train a horse to drive in single or multiple hitches. Members may enroll in this project simultaneously with any mounted horse project. Members will use the same book for all four levels.

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.

M 4-H Horse Driving Project, 5252, \$3.50

Horse Judging

This project teaches youth 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.

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.

M New Mexico 4-H Horse Judging Manual, 200R48, available free online

Careers with Horses

This project is intended to acquaint youth with careers in the horse industry and may be taken simultaneously with any mounted horse project. From stable manager to veterinarian, the 4-H horse careers project is designed to get members interested in horse or horse-related industries and give them an opportunity to explore careers in this field.

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.

M 4-H Horse Careers Manual, 5255, \$2.50

Small Equine

This project explores many aspects of the Small Equine industry, including breed basics, health and nutrition, reproduction, and grooming. This project also allows members to learn about competitions specific to small equines. Members do not need to be enrolled in regular Horsemanship classes to participate in the Small Equine Project.

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.

M 4-H Small Equine Manual, 4H182, \$16.50

Horse Independent Study/Advanced (see pg 8)

Horseless Horse

If members currently do not have a horse but expect to have one in the future and want to participate in other horse projects, they should enroll in this project. A "Horseless Horse" project member can also participate in horse judging and horse career projects without their own horse.

Horseless Horse, Level 1

In level one, youth learn how to identify 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 more. Youth can also practice public speaking, take tours, and attend horse shows and clinics.

Complete at least seven required and optional activities per year. It may take three years to complete this level.

M Giddy Up and Go, **01518Y**, \$10.50

Horseless Horse, Level 2

In Level two, youth will learn more about acquiring and raising a horse, including selecting a horse, horse nutrition and care, equine teeth and bones, judging, including giving oral reasons and much more.

Complete at least seven required and optional activities per year. It may take three years to complete this level.

M Head, Heart and Hooves, **01519Y**, \$10.50

Horseless Horse, Level 3

In this level, youth explore horse reproduction, diseases, health care and pasture management. Members will learn about appropriate shelters and financial planning and be equipped to teach others about horses.

Complete at least seven required and optional activities per year. It may take three years to complete this level.

M Stable Relationships, **01520Y**, \$10.50

Horseless Horse, Level 4

In this level, youth will learn nine basic riding skills and 10 horsemanship skills. They will also gain knowledge in training techniques, trail riding and the proper selection and use of tack.

Complete at least seven required and optional activities per year. It may take three years to complete this level.

M Riding the Range, **01521Y**, \$10.50

Horseless Horse, Level 5

In level five, youth learn more advanced riding skills. They will also learn the Quarter System for horse showing, proper horse-showmanship tactics, and ethics and leadership.

Complete at least seven required and optional activities per year. It may take three years to complete this level.

M Jumping to New Heights, **01522Y**, \$10.50

Additional Resources for All Levels

L Horse Project Helper's Guide, **01523F**, \$9.50. Features group activities such as Horse Bingo, You be the Judge, Corral Your Character and Skill-a-thons.

Horseless Horse Independent Study/Advanced (see pg 8)

Pocket Pets

The pocket pets project is an excellent beginning project, especially for younger members who want to learn about caring for animals. Pets included in the learning materials are ferrets, snakes, turtles, hamsters, gerbils, mice, fish, frogs, toads, lizards, birds, guinea pigs and others.

Pocket Pets, Level 1

In this level, youth will learn about different kinds of pets, the costs to raise them and how to care for them. Members will also learn how to communicate effectively with others, how to make good decisions, how to be responsible and how to plan and organize..

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

M Pet Pals, **BU6359**, \$7.50

Pocket Pets, Level 2

At this level, youth will be presented with new opportunities to explore a wide range of pet-related activities. Members will learn about an animal's digestive system, pet breeding, animal behavior, nutritional requirements for pets, comparison shopping, signs of good animal health and how pets communicate.

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

M Scurrying Ahead, **BU6360**, \$7.25

Pocket Pets, Level 3

At this level, youth will learn about genetics, how to start their own business, the pet industry, explore animal welfare issues, think about the environment, investigate "pet" sayings, and learn about pet diseases. Members also find activities to explore careers and teach others.

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

M Scaling the Heights, **BU6361**, \$7.25

Additional Resources for All Levels

S Pocket Pets Resource Handbook, 4H220R, \$21.50

L Pet Helper's Guide, **BU6362**, \$7.25. Find many fun and engaging group games and activities to further expand the pet project experience for youth.

Pocket Pets Independent Study/Advanced (see pg 8)

Poultry

Poultry is designed to help youth learn about chickens and other poultry. This project will help youth understand the poultry industry and its role in agriculture and the economy. Youth wishing to enroll in Market Poultry or Breeding Poultry must also be enrolled in Level 1, 2 or 3.

Poultry, Level 1

Enroll in Market and/or Breeding in ZSuite

In level one, youth learn about poultry and egg parts, breeds, costs to raise poultry, how to prepare for chicks, how to care for and handle birds, how to select pullets, show poultry and more. Through their work at this level, youth will learn how to speak to groups, work with others, make decisions, take risks, plan, organize and be responsible.

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

M Scratching the Surface, **BU6363**, \$8.50

Poultry, Level 2

Enroll in Market and/or Breeding in ZSuite

At this level, youth learn about egg production, the skeletal structure of birds, pecking orders, and how to: select and judge broilers, recognize a healthy flock, prevent diseases in poultry flocks, select breeding pens, read a feed tag, make an egg candler, and build a budget.

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

M Testing your Wings, **BU6364**, \$8.50

Poultry, Level 3

Enroll in Market and/or Breeding in ZSuite

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

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

M Flocking Together, **BU6365**, \$8.50

Additional Resources for All Levels

S *National 4-H Poultry Judging*, **4H460**, \$8.50, available for download at end of print inventory

M *4-H Poultry Fitting & Showmanship*, **4H1520**, available free online

L *Poultry Helper's Guide*, **BU6366**, \$8.50. Guide youth by using this book to lead 15 learn-by-doing group activities.

Poultry Independent Study/Advanced (see pg 8)

Rabbit

In the rabbit project, youth 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. Youth wishing to enroll in Market Rabbit or Breeding Rabbit must also be enrolled in Level 1, 2 or 3.

Rabbit, Level 1**Enroll in Market and/or Breeding in ZSuite**

This project is designed for beginning rabbit members with little or no experience in raising rabbits. By the end of the project, youth will be able to name several rabbit breeds, 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.

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

M What's Hopping? **BU8080**, \$7.25

Rabbit, Level 2**Enroll in Market and/or Breeding in ZSuite**

The intermediate-level project is designed for 4-H members who wish to expand on their knowledge gained at the previous level. Youth will recognize body types, judge and show rabbits, tattoo a rabbit, keep records, identify diseases, administer medication, record growth rates, and market products.

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

M Making Tracks, **BU8081**, \$7.25

Rabbit, Level 3**Enroll in Market and/or Breeding in ZSuite**

Level three of the rabbit project is designed for those who want to explore rabbit production. Older youth will develop a breeding program, design a rabbitry, cull based on production, prevent diseases, develop sportsmanship and develop a marketing plan.

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

M All Ears, **BU8082**, \$7.25

Additional Resources for All Levels

S *Rabbit Resource Handbook For Breeding, Market and Pet Rabbit Projects*, **4H228R**, \$26.50

L *Rabbit Helper's Guide*, **BU8083**, \$7.25. Fifteen exciting rabbit group activities make group learning fun and educational.

Rabbit Independent Study/Advanced (see pg 8)

Sheep

In this project, youth learn about the modern sheep industry by caring for sheep, learning about animal health, gaining knowledge of sheep by-products, and practicing record-keeping. Youth wishing to enroll in Market Sheep or Breeding Sheep must also be enrolled in Level 1, 2 or 3.

Sheep, Level 1**Enroll in Market and/or Breeding in ZSuite**

In this level, youth 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.

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

M Rams, Lambs and You, **BU6367**, \$7.25

Sheep, Level 2

Enroll in Market and/or Breeding in ZSuite

In Level two, youth learn more about the sheep project, including sheep parasites, meat safety, judging, safe medication use, the digestive system of sheep, health problems, management practices, careers, sheep production cycles, money management, meat cuts and more.

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

M Shear Delight, **BU6368**, \$7.25

Sheep, Level 3

Enroll in Market and/or Breeding in ZSuite

In this level, youth 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. Members can also plan and conduct a sheep event in their community, address current issues related to sheep production, learn about marketing and reproduction, plan and organize a judging contest and explore genetics.

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

M Leading the Flock, **BU6369**, \$7.25

Additional Resources for All Levels

- S *Sheep Resource Handbook for Market and Breeding Projects*, **4H194R**, \$36.50
- L *Sheep Helper's Guide*, **BU6370**, \$7.25. *Helpers will enjoy involving youth in sheep skill-a-thons, sheep bingo, sheep pyramid, developing a management calendar and many more activities.*

Sheep Independent Study/Advanced (see pg 8)

Swine

In this project, youth will learn about caring for swine, management practices, swine nutrition and health. Youth wishing to enroll in Market Swine or Breeding Swine must also be enrolled in Level 1, 2 or 3.

Swine, Level 1

Enroll in Market and/or Breeding in ZSuite

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

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

M The Incredible Pig, **BU8065**, \$7.25

Swine, Level 2

Enroll in Market and/or Breeding in ZSuite

In this level, youth 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.

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

M Putting the Oink in Pig, **BU8066**, \$7.25

Swine, Level 3

Enroll in Market and/or Breeding in ZSuite

In level three, youth 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.

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

M Going Whole Hog, **BU8067**, \$7.25

Additional Resources for All Levels

- S *Swine Resource Handbook for Market and Breeding Projects*, **4H140R**, \$36.50
- L *Swine Helper's Guide*, **BU8068**, \$7.25. *Group activities such as quiz bowls, skill-a-thons, glossary games, swine pyramid, exploring a meat contest and understanding quality assurance keep youth involved.*

Swine Independent Study/Advanced (see pg 8)

Veterinary Science

Veterinary science is designed to help young people understand animals better. Knowledge in veterinary science assists in the protection of human welfare by applying the art and science of medicine to animals. Youth are not required to own an animal to enroll in this project, but it would be helpful if they had one available to study.

Veterinary Science, Level 1

No matter what kind of animal members have, or even if they don't have one, this project will help them learn about animals. Youth will learn about normal animal behavior, basic anatomy and body systems, elementary principles of disease and careers with animals.

Complete a minimum of seven activities and identify at least four goals. It may take three years to complete this level.

M From Airedales to Zebras, **BU8048**, \$7.25

Veterinary Science, Level 2

Level 2 offers new challenges and opportunities to explore a wide range of topics and activities. Youth will learn to create health records for their 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.

Complete a minimum of seven activities and identify at least four goals. It may take three years to complete this level.

M All Systems Go! **BU8049**, \$7.25

Veterinary Science, Level 3

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

Complete a minimum of seven activities and identify at least four goals. It may take three years to complete this level.

M On The Cutting Edge, **BU8050**, \$7.25

Additional Resources for All Levels

L *Veterinary Science Helper's Guide*, **BU8051**, \$7.25. Numerous group activities help youth develop essential life skills as they pursue their interest in veterinary medicine.

Veterinary Science Independent Study/Advanced (see pg 8)

Livestock Judging

Learn to select and evaluate livestock, give oral reasons and place classes of livestock. The goal of livestock judging is to compare your perception of an animal against the ideal and then to contrast your opinion with another individual or a group.

Livestock Judging

In this project, youth learn to evaluate animals based on structure, performance, and overall quality while building critical-thinking and decision-making skills. They develop confidence in communicating their ideas by giving oral reasons and explaining their rankings.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M Beef, Sheep and Swine Selection and Evaluation, 4H103R, \$16.50
- M South Dakota State University Livestock Judging Manual, 4HDL26, available free online
- M Judging Beef Cattle and Oral Reasons 101, 4HDL27, available free online
- M Judging Meat Goats and Oral Reasons 101, 4HDL28, available free online
- M Judging Swine and Oral Reasons 101, 4HDL29, available free online
- M Judging Sheep and Oral Reasons 101, 4HDL30, available free online

- Livestock Judging is a new project this year.
- A new learning resource is coming soon.

Livestock Judging Independent Study/Advanced (see pg 8)

ENGINEERING AND TECHNOLOGY

Aerospace

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

Aerospace, Level 2 (first level of Aerospace)

In this level, youth will 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.

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

M Lift Off, **BU6843**, \$7.25

Aerospace, Level 3 (second level of Aerospace)

At this level, youth learn how to build their own drinking-straw and balloon rocket, organize a model rocket launch day, make a paper flight simulator, build a flying wing (glider), and build a controllable glider. Youth will also learn how to make a hang glider, build a Nagasaki Hata Fighter Kite and identify parts of a helicopter.

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

M Reaching New Heights, **BU6844**, \$7.25

Aerospace, Level 4 (third level of Aerospace)

At this level, youth will design, build and launch a model rocket; construct and use an altitude tracker; research how to qualify for a pilot's license; and plan the most fuel-efficient flight path for a commercial aircraft. Youth will also evaluate and design navigation systems, build a flat-style box kite, design and propose a new Emergency Medical Service (EMS) helicopter service, investigate gravity and complete a career profile.

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

M Pilot in Command, **BU6845**, \$7.25

Additional Resources for All Levels

L *Flight Crew Helper's Guide*, **BU6846**, \$7.25. Many activities are included for hands-on experiential group fun such as aerospace quiz bowls, skill-a-thons and an airport field day.

Aerospace Independent Study/Advanced (see pg 8)

Electric

This project will help de-mystify the magic of electric circuits, magnetism, motors and electronics.

Electric, Level 1

In level one, youth learn about the uses of electricity, selecting appropriate materials for their electric project, how to build a flashlight or switch, test conductivity, investigate circuits, test materials for magnetism, build and test a compass, build an electromagnet, build a galvanometer and build an electric motor.

Complete at least three required activities, four optional activities and at least two leadership experiences. It may take three years to complete the level.

M Magic of Electricity, **BU6848**, \$7.25

Electric, Level 2

At this level, youth participate in activities on Ohm's Law using a squirt bottle and a Volt-Ohm meter, reading circuit diagrams, building a circuit and measuring voltages. Youth will also build a momentary switch and use it to communicate in Engineering and Technology | 23 Morse code, build a three-way switch, solder connections, build a rocket launcher and build a burglar alarm.

Complete at least three required activities, four optional activities and at least two leadership experiences. It may take three years to complete the level.

M Investigating Electricity, **BU6849**, \$7.25

Electric, Level 3

At this level, youth assemble a basic electrical tool and supply kit, interview an electrical inspector, learn about electrical codes, read an electric meter and electric service panels, and decipher the symbols on wires and cables. Youth will also be able to select appropriate light bulbs for different situations, learn how to read an appliance nameplate, measure the electrical usage of appliances, test for voltage, determine whether outlets are

grounded, locate their home wiring system, replace a switch and identify what's on each circuit.

Complete at least three required activities, four optional activities and at least two leadership experiences. It may take three years to complete the level.

M Wired for Power, **BU6850**, \$7.25

Electric, Level 4

Level four encourages youth to move beyond basic electricity, explore electronics and discover the basics of solid-state electronics. Youth will learn about diodes, transistors, LEDs, photocells, SCRs, ICs and amplifiers.

Complete at least three required activities, four optional activities and at least two leadership experiences. It may take three years to complete the level.

M Entering Electronics, **BU6851**, \$7.50

Additional Resources for All Levels

L *Electric Group Helper's Guide*, **BU6852**, \$7.25. Youth learn how to conduct an electric skill-a-thon, quiz bowls, electric Bingo and how to calculate amperage.

Electric Independent Study/Advanced (see pg 8)

Robotics

Through the 4-H robotics project, youth learn by designing, building, programming, and testing robots through hands-on experiences and problem-solving activities.

*Some robotics curriculum is updated by online vendors during the year—please check online at the 4-H website for the latest available versions.

Introduction to Modern Microcontrollers

Microcontrollers are the electronic “brains” inside robots and other everyday smart devices. This project combines electronics, mechanics, programming and, above all, creativity to learn the basics of microcontrollers. This level will first introduce the Arduino microcontroller, an open-source prototyping platform with easy-to-use hardware and software.

Complete a minimum of seven activities and one challenge per 4-H year. Youth are encouraged to design challenges and programming to achieve the minimum requirements. This could be completed in one to three years.

M SparkFun Inventor's Kit - V4.1.2, \$99.95
www.sparkfun.com/products/15267

Robotics Essentials

A computer to run programming software and internet access for watching videos are require.

Not all robots are the same, but they do share some basic features. Youth will choose from two recommended platforms (LEGO® SPIKE® or VEX®) to learn what a robot is, how to build one, and how to program it. See ohio4h.org/robotics for details.

The VEX IQ Education Kit (2nd Generation) is recommended as an accompanying robotics kit resource, found at <https://www.vexrobotics.com/228-8899.html> or wherever you find a VEX IQ Education Kit (2nd Generation set (SKU 22808899).

M Robotics Essentials, **4H509**, \$11.50

Junk Drawer Robotics, Level 1

No computers are required for this project

In level one, youth are challenged to build robots from everyday items. Youth learn about robot arms, pneumatics and three-dimensional space, explore form and function of robots, scientific habits and engineering & design. Youth use a Robotics Notebook to record learning experiences, designs and data from investigations.

Complete a minimum of seven activities listed each year. It may take two years to complete this level.

M Give Robots a Hand, **BU8431**, \$13.50

M Youth Robotics Notebook*, **BU8435**, \$13.50

*There is one Robotics Notebook for three levels of the Junk Drawer Robotics curriculum. The notebook encourages youth to think and act like scientists and engineers.

Junk Drawer Robotics, Level 2

No computers are required for this project

In level two, youth learn about locomotion through exploring, designing, and building mobile robot ROVs and other subsystems. Youth will use their Robotics Notebook to record learning experiences, robotic designs and data from investigations.

Complete a minimum of seven activities listed each year. It may take two years to complete this level.

M Robots on the Move, **BU8432**, \$13.00

M Youth Robotics Notebook*, **BU8435**, \$13.50

Junk Drawer Robotics, Level 3

No computers are required for this project

Level three introduces simple electronic components and focuses on building basic circuits to see how the components work. Youth

will use their Robotics Notebook to record learning experiences, robotic designs and data from investigations.

Complete a minimum of seven activities listed each year. It may take two years to complete this level.

M Mechatronics, **BU8433**, \$13.00

M Youth Robotics Notebook*, **BU8435**, \$13.50

Robotics Independent Study/Advanced (see pg 8)

Small Engines

The small engines project is designed to help youth learn about small engines and other power equipment used around the home. Youth will learn how gasoline engines operate, acquire skills needed to operate engines and equipment safely and become familiar with safety rules before starting and while operating engines.

Small Engines, Level 1

At this introductory level, youth learn about the major parts of engines, how to start and maintain engines, safety around motors, how engines are lubricated, the importance of clean air for efficient engine operation, cooling systems, how to replace a spark plug, and much more.

Complete at least seven activities. It may take three years to complete this level.

M Crank It Up! **BU8186**, \$7.25

Small Engines, Level 2

At this level, youth will explore different engine types, internal parts, specialized tools, engine size, compression, engine seasoning, safety issues, starting a business and much more.

Complete at least seven activities. It may take three years to complete this level.

M Warm It Up! **BU8187**, \$7.25

Small Engines, Level 3

In this level, youth will learn about tearing down and rebuilding an engine, how to use diagnostic tools, “listen” to engines for specific problems, practice properly maintaining engines, and explore rules and regulations, starting a small business and careers.

Complete at least seven activities. It may take three years to complete this level.

M Tune It Up! **BU8188**, \$7.25

Additional Resources for All Levels

L *Small Engines Helper's Guide*, **BU8189**, \$7.25. Find group activities, helpful hints for each activity in the youth guides and additional small engine project meeting ideas.

Small Engines Independent Study/Advanced (see pg 8)

Welding

Through the 4-H welding project, youth gain hands-on experience learning welding techniques, tool safety, metalworking skills, and project construction.

Welding

This beginner project is designed for members aged 12 or older by Oct. 1 of the 4-H year. Younger members may take this project under the guidance of a knowledgeable adult.

This project is recommended for use by 4-H members wanting to build, modify, or repair steel-based projects. In this project, youth learn how to measure and mark materials, use a square, a portable power drill and a grinder. Youth will also learn how to find a location to work on a project, identify welding tools and safety, and decide on appropriate projects for the year.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition. This project will take a year to complete and can be repeated.

M Arcs and Sparks: Shielded Metal Arc Welding, **4H573**, \$11.50

Welding Independent Study/Advanced (see pg 8)

Woodworking

In the woodworking project, youth can build practical and useful objects. Youth will build and construct items using wood and a wide variety of woodworking tools.

Woodworking, Level 1

In level one, youth learn how to measure and mark boards; use a square, a portable power drill, a hand drill or brace, and a hand saw; identify different types of nails and screws; make a sandpaper block; construct a butt joint; and use a hammer safely. Youth will also learn how to find a work area for a project,

identify woodworking tools and woodworking safety, and decide on appropriate projects for the year.

Complete at least seven required and optional activities and at least two leadership experiences. It may take three years to complete this level.

M Measuring Up, **BU6875**, \$7.25

Woodworking, Level 2

At this level, youth will develop a project plan, then use a combination square to make a miter cut, make a curved cut with a jigsaw, use a chisel, sander and staple gun, connect pieces of wood with glue and select brushes for finishing.

Complete at least seven required and optional activities and at least two leadership experiences. It may take three years to complete this level.

M Making the Cut, **BU6876**, \$7.25

Woodworking, Level 3

In level three, youth will learn to use a T-bevel, enlarge scale-drawn plans, make a dado joint, use a powered circular saw and a radial arm saw, use a hand plane and table saw, learn about hinges, hasps and flush plates, understand the difference between various clamps, make a dowel joint and use various types of wood stains. Youth will also explore current technology and career opportunities.

Complete at least seven required and optional activities and at least two leadership experiences. It may take three years to complete this level.

M Nailing It Together, **BU6877**, \$7.25

Woodworking, Level 4

In this level, youth design a woodworking shop and learn more about potential careers. Youth will also learn to use a router, jointer, portable planer and scraper; make mortise, tenon and dovetail joints; and compare adhesives, bleaches and strippers to build a wooden vehicle, step stool or door knocker.

Complete at least seven required and optional activities and at least two leadership experiences. It may take three years to complete this level.

M Finishing Up, **BU6878**, \$7.25

Additional Resources for All Levels

- L *Woodworking Helper's Guide*, **BU6879**, \$7.25. Find a variety of group activities that help youth broaden their understanding of basic woodworking concepts. Each chapter contains ideas to reinforce a life skill.

Woodworking Independent Study/Advanced
(see pg 8)

ENVIRONMENTAL AND NATURAL SCIENCES

Entomology

Entomology is the study of insects, which are the largest group of organisms on Earth. From butterflies to ladybugs, if a member is interested in learning more about insects, this project may be a good fit.

Entomology, Level 1

The study of insects is called entomology. In level one, members learn about the parts of insects, discover different ways of collecting insects, observe their behavior and differences, learn how insects communicate, how they see, about their habits, how to control them and how they move.

Complete a minimum of seven activities and participate in two leadership experiences each year. It may take up to three years to complete this level.

M Teaming with Insects, Level 1, **BU8440**, \$8.50

Entomology, Level 2

In level two, youth will discover how insects use color to communicate, understand what insects eat and see, and how they develop and grow. Youth will also learn how to build an extractor and a separator, read insect control labels and explore careers in entomology.

Complete a minimum of seven activities and participate in two leadership experiences each year. It may take up to three years to complete this level.

M Teaming with Insects, Level 2, **BU8441**, \$8.50

Entomology, Level 3

In this level, youth learn how to raise mealworms with different amounts of food, observe a colony of ants, manipulate bee behavior, organize an insect club, make an identification key that others can use and explore how insects detect different odors.

Complete a minimum of seven activities and participate in two leadership experiences each year. It may take up to three years to complete this level.

M Teaming with Insects, Level 3, **BU8442**, \$8.50

Additional Resources for All Levels

- M Cut-out labels for insect collections, 2FM227, \$0.25
- M Blank entomology labels, 2FM228, \$0.25
- S *Collecting, Mounting and Displaying Insects in 4-H*, 5282, \$2.75
- L *Teaming with Insects Facilitator's Guide*, **BU8443**, \$8.50. *This guide provides practical tips, 14 group activities and supplementary information. Youth compare the leaping abilities of humans and insects, rear and release monarch butterflies, explore how insects transmit disease, study insect behavior, learn insect words, participate in a night safari and develop an insect promotion campaign.*

Entomology Independent Study/Advanced (see pg 8)**If interested in Beekeeping, enroll in Entomology Independent Study with the following resources:**

Purdue PDFs available online at <https://extension.entm.purdue.edu/publications/pubs/bee.html>

Understanding the Honey Bee
Working with Honey Bees
Advanced Beekeeping Methods

Indiana 4-H Beekeeping Helper's Guide, PDF available online at <https://extension.entm.purdue.edu/publications/pubs/4h.html>

Learn more about bees at <https://www.xerces.org/>

Access the Montana Pollinator Education Project for K-8 curriculum and lesson plans at <https://agr.mt.gov/Topics/A-D/Ag-in-Classroom-Pages/Classroom-K-8-Projects>

Forestry

Forestry products abound in Montana – from giant cedars in the west to pines in the southeast. Through the 4-H forestry project, youth will discover how important these forests are to the state.

Forestry, Level 1

In this introductory level, youth will learn about the different types of trees and tree parts, characteristics of different forests, what forests need to grow and thrive, forestry careers and the many different products and benefits people get from forests.

Complete a minimum of six activities each year. It may take up to three years to complete this level.

- M Follow the Path, **BU8038**, \$7.25

Forestry, Level 2

At this level, youth will take a closer look at the inner workings of trees, explore forest change, learn about forest health concerns, and discover the health benefits that trees provide for people. Members will continue to learn about the different types of trees and tree parts, characteristics of different forests, and what forests need to grow and thrive.

Complete a minimum of six activities each year. It may take up to three years to complete this level.

- M Reach for the Canopy, **BU8039**, \$7.25

Forestry, Level 3

In this final level of the forestry project, youth will learn to examine and distinguish different types of trees, learn about tree fruits, learn how to develop a community forest map, learn about genetics, look at forests on a global scale, learn how to care for trees and think about how to conserve forests.

Complete a minimum of six activities each year. It may take up to three years to complete this level.

- M Explore the Deep Woods, **BU8040**, \$7.25

Additional Resources for All Levels

- L *Forestry Helper's Guide*, **BU8041**, \$7.25. *This guide provides forest information, group youth activities and practical tips. Using this curriculum, youth develop a lifelong appreciation of forests.*

Forestry Independent Study/Advanced (see pg 8)

Outdoor Adventures

Outdoor Adventures help youth experience the fun and excitement of the outdoors as they progress from day hikes to overnight camping trips to extended backpacking expeditions. This is a great club project for a group of youth and adults who want to learn more about teamwork and responsibility as they plan their adventures.

Outdoor Adventures, Level 1

At this level, youth will learn about shelter selection, "Leave No Trace" camping skills, outdoor cooking and environmental awareness and appreciation.

Complete at least six activities each year. It may take up to three years to complete this level. It is recommended to complete two

activities in Chapter 1 before the first short 1–2 hour day hike; two activities in Chapter 2 before a half-day hike; and two activities, including the Leave No Trace Activity in Chapters 3 and 4, before a full-day hike.

M Hiking Trails, **BU8043**, \$7.25

Outdoor Adventures, Level 2

In Level Two, youth will plan and take a day-long hiking trip in a more remote area. Youth will also learn about proper clothing needs, what to pack in a daypack, how to read topographic maps and new orienteering skills.

Complete at least six activities each year. It may take up to three years to complete this level. Do at least 10 of the Camping Adventures activities and 10 Reach the Peak activities to complete this project over the three years.

M Camping Adventures, **BU8044**, \$7.25

Outdoor Adventures, Level 3

In level three, youth will learn about spending the night on the trail. Youth will consider clothing needs and learn how to set up tents and use backcountry stoves safely. They will also learn about basic nutritional needs, menu planning, personal hygiene and basic first aid.

Complete at least six activities each year. It may take up to three years to complete this level. Before backpacking, complete at least two activities in Chapter 1, including Gathering Group Gear, complete Food for Thought in Chapter 2; complete the Leave No Trace in Your Place activity in Chapter 3; and complete all the activities in Chapter 4. Complete at least 20 of the Backpacking Expeditions and Reach the Peak activities over the three years.

M Backpacking Expeditions, **BU8045**, \$7.25

Additional Resources for All Levels

- L *Group Activity Helper's Guide*, **BU8046**, \$7.25. *Facilitates the teaching of the three levels of the Outdoor Adventures curriculum. Activities include risk management, the role of a leader, trip planning, health care planning, menu planning, Leave No Trace, camping ethics, adapting programs to special needs populations and evaluation of programs.*

Outdoor Adventures Independent Study/ Advanced (see pg 8)

Shooting Sports

To enroll in 4-H shooting sports, youth must be 9 years old on Oct. 1 of the current 4-H year. The only exceptions are the BB Safety course, which is open to those turning 8 by Oct. 1 of the current 4-H year, and the Western Heritage Project.

Shooting Sports is a safe, fun and challenging activity that can become a lifelong passion to be shared with the family. The safe and responsible use of firearms and archery equipment is the primary focus of the 4-H Shooting Sports program. Members will improve marksmanship skills, can compete, and learn self-discipline and personal responsibility. All 4-H shooting sports leaders must attend a state training workshop and become certified in their shooting discipline before serving as project leaders. Some counties may have further requirements depending on shooting discipline. It is strongly encouraged and required in some counties that a parent, guardian or other responsible adult be willing to attend project meetings with the 4-H member. There is an opportunity for practice under the watchful eye of trained leaders who have the final say on safety matters and on the behavior of the enrolled youth. Keeping current record books is required for all members. Check with your local Extension office for further requirements.

All 4-H Shooting Sports curriculum is to be used only by a 4-H member enrolled in County Shooting Sports programs led by a 4-H-certified Shooting Sports leader. No Shooting Sports projects that involve firearms, air guns or archery equipment may be taken independently without a certified leader.

Air Pistol

Members must be 9 years old on Oct. 1 of the current 4-H year.

In this project, youth will learn safety and marksmanship skills when using a pistol. Sight alignment and sight picture will be stressed, as will trigger control, proper stance and consistent shooting. Shooting is done off a rest and continues into offhand as skills improve.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Pistol Member Record Book, 4H753, \$16.50

L 4-H Pistol Discipline Manual is presented at the state 4-H shooting sports workshops.

Small Bore Pistol (.22)

Members must be 9 years old on Oct. 1 of the current 4-H year. *Competitors must be 10 years old or older by Oct. 1 of the current 4-H year to participate in the state shoot.

In this project, youth learn safety and marksmanship skills when using a pistol. Sight alignment and sight picture will be stressed, as will trigger control, proper stance and consistent shooting. Shooting is done off a rest and continues to offhand as skills improve.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Pistol Member Record Book, 4H753, \$16.50
 - L 4-H Pistol Discipline Manual is presented at the state 4-H shooting sports workshops.
-

Air Rifle

Members must be 9 years old on Oct. 1 of the current 4-H year. Some counties with advanced projects may have further age guidelines.

In this project, youth will learn the fundamentals of rifle shooting: sight alignment, sight picture, trigger control, breathing and proper stance. In addition to record-keeping pages, this member record book requires a commitment to safety and to completing activities on setting goals, parts and equipment, and more.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Rifle Member Record Book, 4H750, \$16.50
 - L 4-H Rifle Discipline Manual is presented at the state 4-H shooting sports workshops.
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Small Bore Rifle (.22)

Members must be 9 years old on Oct. 1 of the current 4-H year. *Competitors must be 10 years old or older by Oct. 1 of the current 4-H year to participate in the state shoot. Some counties offering advanced projects may have further age guidelines.

In this project, youth will learn the fundamentals of rifle shooting: sight alignment, sight picture, trigger control, breathing and proper stance. In addition to record-keeping pages, this member record book requires a commitment to safety and to completing activities on setting goals, parts and equipment, and more.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Rifle Member Record Book, 4H750, \$16.50
 - L 4-H Rifle Discipline Manual is presented at the state 4-H shooting sports workshops.
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BB Gun Safety

Members must be 8 years old on Oct. 1 of the current 4-H year. Some counties with advanced projects may have further age guidelines.

In this project, members will learn the fundamentals of rifle shooting: sight alignment, sight picture, trigger control, breathing and proper stance. In addition to record-keeping pages, this member record book requires a commitment to safety and to completing activities on setting goals, and parts and equipment.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Rifle Member Record Book, 4H750, \$16.50
 - M Daisy BB Gun Curriculum, 4HDL03, available free online. <https://daisy.com/wp-content/uploads/2019/10/Daisy-Ten-Lesson-Curriculum.pdf>
 - L 4-H Rifle Discipline Manual is presented at the state 4-H shooting sports workshops.
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Archery

Members must be 9 years old on Oct. 1 of the current 4-H year. Check with your local Extension office for further requirements.

The 4-H archery project teaches proper archery techniques regardless of bow type. Members may shoot a recurve or compound bow, and further divisions include additions of sights and other equipment. The local 4-H leader and local Extension Agent will assist youth in selecting equipment appropriate to the 4-H member's age and stature.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Archery Member Record Book, 4H751, \$16.50
 - L 4-H Archery Discipline Manual is presented at the state 4-H shooting sports workshops.
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Shotgun

Members must be 9 years old on Oct. 1 of the current 4-H year. Some counties may have additional age guidelines, and the local 4-H leader and local Extension Agent will determine the appropriateness of this project for members based on the 4-H member's age and stature.

Members of this project will learn skills ranging from basic to advanced in trap, skeet and sporting clay shooting, depending on the facilities available in their county. As with all 4-H shooting sports projects, safety is a primary emphasis, as is self-improvement.

Members will also learn the types of shot, gauges, shooting techniques and the rules of competition.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Shotgun Member Record Book, 4H752, \$16.50
- L 4-H Shotgun Discipline Manual is presented at the state 4-H shooting sports workshops.

Muzzleloading

Members must be 9 years old on Oct. 1 of the current 4-H year. Some counties may have additional age guidelines, and the local 4-H leader and local Extension Agent will determine the appropriateness of this project for members based on the 4-H member's age and stature.

The 4-H muzzleloading project will teach the differences between black powder, black powder substitutes and smokeless powder. Members will improve marksmanship skills and learn the proper handling techniques necessary for the safe use of muzzle-loading firearms. Most projects also include inline and traditional muzzleloaders.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Muzzleloading Member Record Book, 4H755, \$16.50
- L 4-H Muzzleloading Discipline Manual is presented at the state 4-H shooting sports workshops.

Hunting

Members must be 9 years old on Oct. 1 of the current 4-H year.

The 4-H hunting/wildlife project includes sections focused on firearm and bow safety, but also teaches 4-H members conservation, wildlife habitat requirements, tracking, stalking skills, orientation, outdoor survival and more. This project can be expanded to almost any aspect of wildlife management and is valuable to anyone spending time outdoors.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Hunting/Wildlife Member Record Book, 4H754, \$16.50
- L 4-H Hunting/Wildlife Discipline Manual is presented at the state 4-H shooting sports workshops.

*** Ensure that members are following all local and state guidelines and policies for hunting by checking out the Montana Fish, Wildlife and Parks Website at <https://fwp.mt.gov/hunt/youth>**

Montana 4-H Western Heritage Project (Western Action Shooting)

Age divisions in the 4-H Western Heritage Project:

- **Members who are 9–11 years old by Oct. 1 of the current 4-H year may shoot .22 rifle only.**
- **Members age 12–13 years old by Oct. 1 of the current 4-H year may shoot .22 rifle, .22 pistol and shotgun.**
- **Members age 14 and older by Oct. 1 of the current 4-H year may shoot pistol, rifle, shotgun and any allowable caliber.**

All age divisions participate under the immediate guidance of a certified 4-H Western Heritage Project instructor. Some counties may have further age guidelines and the local 4-H leader and local Extension Agent will determine the appropriateness of this project for members based on age and stature of the 4-H member, including use of a project eligibility assessment test. Each member's permission to participate rests with the certified 4-H instructor and the local Extension Agent.

This project includes 4-H Western Action Shooting and more. Members will learn the history of 19th-century firearms, period-correct frontier clothing, hats, boots, holsters and the true lifestyles of those who lived in the Old West from many diverse walks of life. Some members may be interested in becoming Old West re-enactors while others might focus mainly on the shooting aspects of the project – or both. Firearm safety and responsible behavior are stressed throughout the project.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M 4-H Western Heritage Project, Youth Activity Guide, Levels 1–3, 5332, \$13.00
- L Western Heritage Project, Firearms, Gunleather, and Attire of the Frontier West 1860–1900, 5323, \$25.50 (soft cover or spiral bound edition)
- L Western Heritage Project, Firearms, Gunleather, and Attire of the Frontier West 1860–1900, 5323, \$45.50 (hard cover coffee table edition)
- L 4-H Cowboy Action Shooting Discipline Manual is presented at the state 4-H shooting sports workshops.

Shooting Sports Independent Study/Advanced (see pg 8)

Any independent study project in 4-H shooting sports that involves firearms or archery gear must be under the supervision of a certified 4-H instructor trained in the appropriate discipline. At home independent study projects may be conducted without an instructor if they are limited to posters, clothing or other educational exhibits that do not include firearms or archery gear.

Sport Fishing

Sport Fishing allows members to enjoy one of Montana's most popular outdoor activities. This project helps young people learn about fishing tools and techniques, as well as aquatic ecology.

Sport Fishing, Level 1

Ensure that members follow all local and state guidelines and policies for fishing by checking out the Montana Fish, Wildlife and Parks Website at <https://fwp.mt.gov/fish/kids/essentials>

In this level, youth will learn about tackle, different casting methods and how their actions affect the fishing environment, as they improve their fishing skills. Youth will have fun tying knots, casting to a target, rigging various lines, selecting tackle, identifying where fish are, using different baits & lures, identifying fish, and identifying internal & external fish parts.

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

M Take the Bait, **BU7598**, \$9.50

Sport Fishing, Level 2

Ensure that members follow all local and state guidelines and policies for fishing by checking out the Montana Fish, Wildlife and Parks Website at <https://fwp.mt.gov/fish/kids/essentials>

In level two, youth will learn more about fishing, aquatic ecology, knot tying, types of casting, fish characteristics and how to prepare a fish meal for their family. Youth will also have a better understanding of fishing regulations.

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

M Reel In the Fun, **BU7599**, \$9.50

Sport Fishing, Level 3

Ensure that members follow all local and state guidelines and policies for fishing by checking out the Montana Fish, Wildlife and Parks Website at <https://fwp.mt.gov/fish/kids/essentials>

In this project, youth will develop their leadership and fishing skills, as well as learn how to determine the age of fish, disassemble and reassemble a fishing reel, make artificial lures and flies,

modify fishing equipment, design and craft a lure and collect and identify aquatic insects..

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

M Cast Into the Future, **BU7600**, \$9.50

Additional Resources for All Levels

- L *Sport Fishing Helper's Guide*, **BU7601**, \$9.50. Youth identify fish characteristics, plan the club year, design a fish print shirt, powder paint a jig head, make a plastic worm, tie knots, complete a boat safety checklist, plan and conduct a fishing trip, play Perch Bingo, organize a sportfishing quiz bowl and conduct a fishing skill-a-thon.

Sport Fishing Independent Study/Advanced (see pg 8)

Wildlife

Wildlife is abundant in Montana, and this project engages youth in learning about wild animals, their habitat and their behavior.

Wildlife

This project is for young people who enjoy wildlife and those who want to learn more about wildlife. This book introduces youth to 12 animal species. Members interested in wildlife are encouraged to use this manual as a basis for their first year in the project and supplement it with other information.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Wildlife Science Level 1, **4H1044**, \$9.00, purchase digital download at <https://shop4-h.org/>

L 4-H Wildlife Science Level 1, Facilitator's Guide, **4H1045**, \$9.00, purchase digital download at <https://shop4-h.org/>

Additional Resources

- L *Montana WHEP Level 3 Manual*, 5313 (Available for check out from State 4-H Office)

Web: <http://fwp.mt.gov/education/ecosystem/home.html>

Web: <http://fieldguide.mt.gov/>

Wildlife Independent Study/Advanced (see pg 8)

FAMILY AND CONSUMER SCIENCES

Babysitting

This project familiarizes teens with the responsibilities of babysitting and provides the information they need to become capable, caring, trustworthy and competent sitters.

Babysitting

There are five chapters and lessons in the babysitting member guide that include safety, First Aid and CPR, child development, nutrition, handling emergencies, entertaining children and the business of babysitting. Each lesson contains four to five areas of study. Babysitting curricula are based on character traits including trustworthiness, respect, responsibility, fairness, caring and citizenship. This series should be combined with Certified First Aid and CPR instruction to complete the babysitting course requirements.

A member could work on this book for two years, but it is recommended that they finish the book in one year to become a certified babysitter. To be certified, he/she would also need certification from the Red Cross or another group in First Aid and CPR.

M/L I have what it takes to be YOUR Teen Babysitter, 4HDL31, available free online

Babysitting Independent Study/Advanced (see pg 8)

Family Adventures

Sharing stories, cooking together, volunteering, spending time outdoors and learning family history are part of what youth and their families will experience in the Family Adventures project.

Family Adventures

Family Adventures is a special kind of project in Montana 4-H. Members and their families, no matter how they define it, will fit this project. Members should encourage their entire family to participate in fun, engaging activities while spending time together.

Complete seven adventures as a family to complete this project.

M Family Adventures, 5302, \$10.25

Family Adventures Independent Study/Advanced (see pg 8)

Interior Design

Through the 4-H interior design project, youth explore and apply hands-on design concepts as they plan spaces, select furnishings, and create rooms that reflect style, function, and personality.

Interior Design, Level 1

Youth will learn and apply basic design concepts to walls, windows and floors. Youth interested in a new color scheme, furnishings and accessories for their own rooms or for other projects will love this level.

Complete a minimum of one activity in two sections per year to complete this level. It may take up to two years to complete this level.

M Design Decisions, 4H1600, \$10.50

Interior Design, Level 2

Explore how to design with style as you plan, select and care for furniture, fabrics and decorative items for a room.

Complete a minimum of one activity in three sections per year to complete the level. It may take up to three years to complete this level.

M Design Decisions, 4H1600, \$10.50

Interior Design, Level 3

At this level, youth learn about accessories and how to add personality and interest to a room.

Complete all four sections of The Finishing Touch, and at least one activity per section. It may take up to three years to complete this level.

M Design Decisions, 4H1600, \$10.50

Interior Design, Level 4

This level will challenge youth to create a home that is healthy, energy efficient and conserves natural resources. Youth will also explore career ideas, safety tips, resources on the internet and engage in community service.

Complete up to three sections and complete a minimum of one activity per section to complete this project level.

M Design Decisions, 4H1600, \$10.50

Interior Design Independent Study/Advanced (see pg 8)

Sewing and Textiles

In the 4-H sewing and textiles projects, youth learn hands-on skills in sewing, fabric selection, garment construction, and textile care while creating their own projects.

Sewing, Level 1

In this level, members will learn the tools of the sewing trade and how to use them. Youth will learn basic sewing tools and their uses, the parts of a sewing machine, choosing and preparing fabric, pressing and ironing, and various seam finishes. Youth will also gain skills in pattern drawing, fabric selection, and pattern cutting. This level allows members to take their skills a step further by investigating businesses, engaging in service-learning projects and modeling.

Complete up to four projects per year from the Maker's Guide or similar skill level projects. Use the lessons in FUNdamentals to guide your learning. It may take up to three years to complete this level.

- M STEAM Clothing: Maker's Guide to sewing stuff, 4H2240, \$7.50
- M STEAM Clothing 1: FUNdamentals, 4H2210, \$13.50
- M Sew Exciting, Level 1, 5350, \$7.25
- M The Complete Photo Guide to Sewing, 5338, \$17.50

Sewing, Level 2

In level two, youth will advance their sewing skills by making garments and household items. Youth will learn how to sew a set-in sleeve, a collar, various pocket applications, garment fitting, and design basics. This level will allow youth to explore adding finishing touches to garments, how to market sewn products, and how to calculate the prices of products they have created.

Complete up to four projects per year using the lessons and skills learned from Level 2. It may take up to three years to complete this level.

- M STEAM Clothing 2: Simply Sewing, 4H2220, \$13.50
- M The Complete Photo Guide to Sewing, 5338 \$22.25

Sewing, Level 3

In level three, youth practice advanced sewing skills and garment construction techniques, including tailoring, linings, interfacing and sewing with challenging fabrics. This level allows youth to learn couture techniques used by designers and how to sell their professional-looking garments and accessories.

Complete up to two projects per year using the lessons and skills learned from Level 3. It may take up to three years to complete this level.

- M STEAM Clothing 3: A Stitch Further, 4H2230, \$13.50
- M The Complete Photo Guide to Sewing, 5338 \$22.25

Embroidery

Beginning, Intermediate or Advanced levels

The 4-H embroidery project is designed to encourage creativity and to meet the needs of each individual member. Embroidery could include, but is not limited to crewel, huck or Swedish weaving and creative stitchery on clothing or other articles.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

- M University of Kentucky Embroidery Project Book, 4JF11PA, available free online

Sewing/Textiles Independent Study/Advanced (see pg 8)

Shopping in Style

In Shopping in Style, youth will learn to be better clothing consumers and to use their resources wisely in making apparel choices. This project allows youth to determine their clothing needs, put together outfits, and create a versatile wardrobe, all while staying on budget. Youth will gain confidence in presenting themselves in their chosen outfits.

Complete seven lessons in the project book per year. It may take three years to complete the project.

- M Shopping in Style, 4H435 \$13.50

Shopping in Style Independent Study/Advanced (see pg 8)

Fiber Arts

Youth who enroll in 4-H Fiber Arts projects learn hands-on skills such as knitting, crocheting, or other textile techniques while creating projects. Fiber Arts encourages creativity, patience, and problem-solving as members practice new skills.

Knitting

Beginning, Intermediate or Advanced levels

The 4-H knitting project is designed to teach youth basic knitting skills and to use creativity to produce articles that enhance their wardrobes. The teaching outline will help the leader see the concepts to be learned and offer suggestions for doing activities.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M Knit Together, 4H416, \$5.50 *New book coming soon

Crochet

Beginning, Intermediate or Advanced levels

The 4-H crochet project teaches about tools and equipment, choosing materials and working from a plan. The project includes several basic stitches as well as pattern stitches. The three levels in the crochet project are beginning, intermediate, and advanced.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition. https://www.montana.edu/extension/4h/projects/fcs/crochet_guidelines.html.

M University of Kentucky Crochet Project Book, 4JF10PA, available free online

M Crochet 4-H Project Guidelines, 4HDL24, available free online

Fiber Arts Independent Study/Advanced (see pg 8)

Quilting

The quilting project is designed to teach youth techniques and skills in making quilted, appliquéd or patchworked items

Quilting, Level 1

The beginning quilting project will teach youth about quilting and piecing. Youth will learn to identify quilting tools, select fabrics, cut and stitch the quilt top, and finish the quilt. Some basic patterns will be included in this project.

Complete all seven activities in the book, take part in two learning experiences, complete two leadership activities, and write a project summary.

M You Can Quilt!, 4H499, \$16.50

Quilting, Level 2

In level two, youth will learn about quilting from design and construction to care, preservation and even about career opportunities. This level focuses on making creative quilts using squares and rectangles. It is recommended that youth who enroll in level two have some experience in sewing and quilting. If youth are still learning, they should be able to successfully engage in level two with support of an adult who understands sewing techniques.

Complete a minimum of two projects of choice each year in the Block 1 book to complete the project. Use the Design Your Own project to set goals. It may take up to two years to complete this level.

M Quilt Quest Project Block 1, Creative Corners, purchase from Nebraska Extension, <https://marketplace.unl.edu/extension/3h1320.html>

M Quilt Quest Project Block 2, Terrific Triangles, purchase from Nebraska Extension, <https://marketplace.unl.edu/extension/4h1330-316.html>

Quilting, Level 3

In level three, youth learn about quilting from design and construction to care, preservation and career opportunities. This level focuses on making quilts using basic triangles, both half-square and quarter-square triangles, and equilateral triangles.

Complete a minimum of two projects of choice each year in the Block 2 book to complete the project. Use the Design Your Own project to set goals. It may take up to two years to complete this level.

M Quilt Quest Project Block 1, Creative Corners, purchase from Nebraska Extension, <https://marketplace.unl.edu/extension/3h1320.html>

M Quilt Quest Project Block 2, Terrific Triangles, purchase from Nebraska Extension, <https://marketplace.unl.edu/extension/4h1330-316.html>

Additional Resources for All Levels

S *Beginners Guide to Quilting, 16 Projects to Learn to Quilt*, 5340, \$16.50

S *Start Quilting with Alex Anderson*, 5339, \$16.50

L *Quilt Quest Leaders Guide*, available online, \$9.95

Quilting Independent Study/Advanced (see pg 8)

PLANT SCIENCES

Crop Science

Through the 4-H crop science project, youth gain hands-on experience exploring plant growth, soil health, crop production, and agricultural practices through observation and experimentation.

Small Grains: Wheat, Oats, Barley, and Rye

This project is suggested for youth in grades 5-12. Level 1 and 2 members can study plant variety and selection, display stages of plant development, test seed germination and methods of

seeding, learn about seasonal pests and determine pesticide hazards. Level 3 and 4 members can take soil samples, learn to recognize diseases, pests, and weeds, study production costs and market prices, learn about necessary nutrients and determine field acreages. In this project, members will learn how to grow, harvest, store and market crops, along with their uses and careers.

Complete at least three activities in the book and make a project plan to complete this project.

M Small Grains: Wheat, Oats, Barley, and Rye, **MJ0110**, \$5.50

Crop Science Independent Study/Advanced (see pg 8)

Gardening

In the gardening project, youth learn about planting, growing and caring for flowers, vegetables and other plants while exploring the science of gardening. This project helps youth gain an understanding of healthy food systems and caring for the land through real-world experiences.

Gardening, Level A

This book is for youth in grades 3–4. In this level, you will learn how to plan an in-ground or container garden, prepare soil, and when, where, and what to plant. Youth will also explore basic plant science, tool safety, careers, germinating seeds, growing super-sized pumpkins, experiments with plant parts, and visiting a grocery store to view vegetables.

Complete the activities listed in the book for year one. Six additional activities are listed to be completed in year two.

M See them Sprout, **4H1037**, \$8.50

Gardening, Level B

This book is for youth in grades 5–6. Youth learn how to modify garden plans about seed varieties and cultivars, starting seeds indoors, using transplants, composting, and integrated pest management. Youth will also explore plant families, how plants respond to light, building a plant maze, making a worm box, judging vegetables and how to grow new plants from plant parts.

Complete the activities listed in the book for year one. Six additional activities are listed to be completed in year two.

M Let's Get Growing, **4H1038**, \$8.50

Gardening, Level C

This book is for youth in grades 7–9. Youth learn different planting methods, how to improve soil, and how to extend the growing season. They explore photosynthesis, hybrid vs. standard forms, herb gardening and preservation, plant companions, storing and saving seeds, how to identify and prevent weeds, insect damage, cross-pollinating flowers, making an acid/base indicator, producing a chromatogram, animal pests and helping others in gardening.

Complete the activities listed in the book for year one. Six additional activities are listed to be completed in year two.

M Take Your Pick, **4H1039**, \$8.50

Gardening, Level D

This book is for youth in grades 10–12. Youth learn to maximize garden space using different planting methods, how to harvest, store, preserve, and/or sell vegetables and herbs. They study plant genetics, plant diversity, plants in space, integrated pest management and horticulture-related careers. Youth will also explore using garden-planning software and apps, investigating effects of pollution, growing hydroponic plants, and conducting a cultivar trial.

Complete the activities listed in the book for year one. Six additional activities are listed to be completed in year two.

M Growing Profits, **4H1040**, \$8.50

Additional Resources for All Levels

S *Suggested 4-H Garden Exhibits*, **4H970W**, \$2.50

L *Gardening Helper's Guide*, **4H1041W**, \$7.50. *This guide provides additional information for adult volunteers to expand on topics in the youth manuals. This guide includes additional activities that are great for afterschool or club settings and includes answers to the questions posed in youth books.*

Gardening Independent Study/Advanced (see pg 8)

Range Science Management

Rangelands are grasslands, shrublands, woodlands, wetlands, and deserts that are grazed by domestic livestock or wild animals. In this project, youth will learn the importance of rangeland, how it is managed, and how to identify common rangeland plants.

Range

This is a three-year project. In this project, youth will learn the importance of rangeland, how rangeland is managed and how to

identify common rangeland plants. Youth will build a plant press and begin a rangeland plant collection.

See project sheet on the Range Science CD

- M Range Science Resources CD, 5345, \$5.00
- M Range Plants of Montana, MSU Extension, EB0122, \$10.00
- M Range Plant Labels, 2FM203, Pad of 25 for \$0.25

Additional Resources

- S *At Home on the Range, Level 1*, 5311, \$5.50

* The Montana Curriculum Advisory Team is developing an updated curriculum for the state.

Range Science Independent Study/Advanced (see pg 8)

Weed Science

Weed Science looks at one of the most important environmental issues in Montana. Weed science is the study of how unwanted plants grow, interact with other plants and animals, and respond to management.

Weed Science, Level 1

This level is designed for youth ages 11–13. You will develop a basic understanding of invasive plants, the causes of their invasion, the economic and environmental impacts of weeds, weed identification and methods of weed dispersal and receive an introduction to rangeland monitoring. You will build a plant press and collect at least 25 weeds.

Complete 14 activities before moving on to Level two, in addition to one “more challenge” option. Work at your own pace, but complete the level in three years. Additionally, it is recommended to build the plant press during the first year and collect at least 25 weeds by the time you finish the level.

- M Weed Science, Level 1, 5352, \$23.00
- M Montana Noxious Weeds, EB0159, \$4.95

Weed Science, Level 2

This level is designed for youth ages 14–18. You will broaden your understanding of how invasive plants impact the environment, methods to control weeds and integrated weed management. It is designed to help you start to understand how land managers can prevent and control the spread of invasive plants.

Complete at least four activities each year, and one “more challenge.” Add 20 more plants to your weed collection using

the plant press built in level one. This level may take up to three years to complete.

- M Weed Science, Level 2, 5353, \$23.00

Additional Resources

- M *Missoula kNOweeds Curriculum* - <https://www.missoulaeduplace.org/youth-education#:~:text=kNOweeds%20Curriculum,in%20the%20state%20of%20Montana>
- S *Plant Identification Learning Kit* (available at state 4-H Center for Youth Development)
- S *Alien Invasive Pest Species Folder*, 5344, \$2.00

Weed Science Independent Study/Advanced (see pg 8)

COMMUNICATIONS AND EXPRESSIVE ARTS

Cowboy Poetry

Through the 4-H cowboy poetry project, youth build creativity, communication, and storytelling skills by writing, performing, and sharing original works that connect them to western heritage and personal experiences.

Cowboy Poetry

Cowboy Poetry is designed to teach youth how to write original poetry. Youth will learn about the basic rhyme patterns used in most poetry, some classic cowboy poems from the old masters, the basics of meter and rhythm, and “free verse.” This project is designed to provide another way to practice public presentation skills, develop a greater appreciation for local history and everyday life and give opportunities to write an oral history of family and experiences in 4-H. This project is self-paced, so youth can learn at their own pace. There are no levels, and youth can re-enroll as often as they would like.

Complete a minimum of three original poems composed of at least four-line stanzas and demonstrate a specific rhyme pattern in original verse.

- M Spurrin’ the Words, Youth Guide, 5308, \$9.00
- L Spurrin’ the Words, Leader’s Guide, 5309, \$9.00

Cowboy Poetry Independent Study/Advanced (see pg 8)

Leathercraft

Leathercraft can be of interest to youth in rural or urban areas. It complements other projects using leather products, such as the livestock, horse and clothing projects. Use creativity to create projects and learn new skills.

Leathercraft, Level 1

Level one is an introductory course that teaches 4-H members about leather craftsmanship. It is designed to allow youth to create designs through stamping and to explore the wide-open potential of this technique.

Complete a minimum of two articles by practicing lacing, finishing and assembly of leather articles.

M 4-H Introduction to Leathercraft and Creative Stamping, Unit 1, CO2001C, available free online

Leathercraft, Level 2

In level two, youth will learn new techniques for carving and stamping leather with conventional designs. Youth will also learn more advanced lacing techniques, design principles and their functional relationship to the articles they create.

Complete a minimum of two articles by practicing with carving tools, practicing elementary sketching and design.

M Beginning Leather Carving, Unit 2, CO2002C, available free online

Leathercraft, Level 3

Youth will learn about inverted carving techniques, beginning dyeing, lining, simple molding and shaping or hand stitching.

Complete a minimum of two articles by practicing inverted carving techniques, beginning dyeing, lining, simple molding and shaping or hand stitching.

M 4-H Leathercraft, Levels 3–7, CO2003C, available free online

Leathercraft, Level 4

Youth will learn how to figure carve and emboss. Youth will also perfect skills from previous levels and share their knowledge with others.

Complete a minimum of two articles by practicing carving and embossing.

M 4-H Leathercraft, Levels 3–7, CO2003C, available free online

Leathercraft, Level 5

Youth will learn about solid color dyeing and shading. Youth will also have the opportunity to peer teach or design and implement a workshop or class.

Complete a minimum of two articles by practicing solid color dyeing and shading and complete leadership/citizenship experiences.

M 4-H Leathercraft, Levels 3–7, CO2003C, available free online

Leathercraft, Level 6

Youth will learn more about carving, dyeing and shading. Youth will create a picture, scene or portrait using the skills learned in this level. Youth will also have the opportunity to peer-teach or lead a class or workshop.

Complete a minimum of one carving, select a picture, scene or portrait to carve, then frame or mount the picture.

M 4-H Leathercraft, Levels 3–7, CO2003C, available free online

Leathercraft, Level 7

Youth will learn how to make or rebuild a saddle, study references on saddle making and share information with others through peer teaching or conducting classes.

Complete a saddle project, either by making or rebuilding.

M 4-H Leathercraft, Levels 3–7, CO2003C, available free online

Leathercraft Creations, Level 8-10

Leathercraft Creations Units 8–10 focus on the creative use of leather. This project should be carried out for more than one year per level, depending on the members' desired skills and interests.

Project Requirements – Unit 8

Complete a minimum of two articles using creative design by developing a pattern using stamping tools, balance and color.

Project Requirements – Unit 9

Complete a minimum of two articles using non-tooled and non-sewn techniques like lacing, braiding, expanding, and sculpting.

Project Requirements – Unit 10

Complete a minimum of two articles using sewing techniques..

Materials for Units 8–10

M 4-H Leathercraft, Levels 8–10, CO2008, available free online

L 4-H Leathercraft Leaders Guide, CO2000, available free online

Leathercraft Independent Study/Advanced (see pg 8)

Photography

Photography provides an interesting project for young people of all ages. Photography offers both a useful hobby and a career path, providing guidance to develop skills in taking and using pictures.

Photography, Level 1

This level is for studying photography. Youth learn about equipment, lighting, composition, and skill building. Youth will also learn about flash, black-and-white photography, and taking selfies. Having access to a camera (phone or DSLR) is essential, as well as deciding how and where to store photos taken during the project.

Complete this level by exploring each of the four project areas (equipment, lighting, composition and skill building), take part in two learning experiences and two leadership/citizenship activities.

M Photography Basics, **01902Y**, \$11.50

Photography, Level 2

Level two is an intermediate project for a serious study of photography. Activities are built on the four main areas from level 1 (equipment, lighting, composition, and skill-building) and include new topics such as the rule of thirds, lens selection, and panoramas. Having access to a camera (phone or DSLR) is essential, as well as deciding how and where to store the photos taken during the project.

Complete this level by exploring each of the four project areas (equipment, lighting, composition and skill building), take part in two learning experiences and two leadership/citizenship activities.

M Next Level Photography, **01903Y**, \$11.50

Photography, Level 3

Level three is an advanced-level project for a serious study of photography. Activities build on the four main areas from Levels one and two (equipment, lighting, composition, and skill-building) and include new topics such as smartphone exposure tips, low-light challenges, and studio portraits. Having access to a camera (phone or DSLR) is essential, as well as deciding how and where to store the photos taken during the project.

Complete this level by exploring each of the four project areas (equipment, lighting, composition and skill building), take part in two learning experiences and two leadership/citizenship activities.

M Mastering Photography, **01904Y**, \$11.50

Videography, Level 4

Youth will learn how to use video cameras and a tripod, use video tips and capture and transfer video footage. Youth will plan and carry out a video project in the form of a family vacation movie, a PSA or a documentary. It is advisable to understand the basics of photography before beginning this project.

Complete a short practice video on a chosen subject and a longer video that has a script and uses storyboard techniques. This video will demonstrate digital storytelling and follow the rubric requirements in the book.

M Movie Magic, 5325, \$8.50

Photography Independent Study/Advanced (see pg 8)

Visual Arts

Youth will enjoy many artistic experiences and develop skills for a lifetime through activities focusing on elements and principles of art. The project books can be used by members and helpers. Many of the activities can be adapted to work with any grade.

Get Started in Art

Youth will explore the basic elements of visual art through activities on color, line, space, balance, and more, and then complete their own work of art. This project can be repeated as long as new learning occurs and new works of art are created.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M/L Get Started in Art, **4H592**, \$11.50

Drawing, Fiber and Sculpture

Drawing, fiber and sculpting activities are included in this project to develop the member's artistic skills and talents. All of the activities focus on exploring the elements and principles of design and encourage development of skills.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M/L Sketchbook Crossroads, **BU8140**, \$10.50

Painting, Printing and Graphic Design

The three media, painting, printing and graphic design, are the areas members choose to develop their artistic skills and talents. Portfolio Pathways features three units for youth to explore and

contains 25 step-by-step activities in total, including painting a self-portrait, Plexiglas etching, and typography.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M/L Portfolio Pathways, **BU8141**, \$10.50

Visual Arts Independent Study/Advanced (see pg 8)

Scrapbooking

Through the 4-H scrapbooking project, youth develop creativity, organization, and storytelling skills by designing pages that preserve memories and express personal experiences through hands-on artistic projects.

Scrapbooking, Level 1

Scrapbooking is an excellent way to capture and preserve all your favorite 4-H activities. This introductory project is designed for youth of all ages with limited experience in scrapbooking.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M Scrapbooking: A 4-H Guide to Preserving Memories, 4H497, \$16.50

Scrapbooking Independent Study/Advanced (see pg 8)

LEADERSHIP AND PERSONAL DEVELOPMENT

Citizenship

In the citizenship project, youth learn leadership, service, and civic responsibility by actively participating in their communities and exploring ways to make a positive impact.

Navigating Citizenship, Levels 1 and 2

The 4-H Citizenship Curriculum incorporates several successful models of civic engagement to educate members about three specific areas: Montana Government, the United States Federal Government, and Montana Tribal Government. Youth will learn how to get involved, who's who and how each person fits into the overall government process. Youth will discover how to become active citizens by participating in this project.

Level 1, middle school youth: Complete three activities in the Montana Government section and write a bill. They can choose to attend and present their bill at the 4-H Citizenship Seminar held in Helena every two years (must apply through your county). Level 2, high school youth: Complete five activities related to Federal or Tribal Governments and have a choice of applying for the National 4-H Conference or the Ignite Conference, both held in Washington, D.C.

M Navigating Citizenship, 806, \$8.00

M Agents of Change, Level 1 for Middle School Youth, **BU8182**, \$7.25

M Raise Your Voice, Level 2 for High School Youth, **BU8183**, \$7.25

L Service Learning Helper's Guide, **BU8184**, \$7.25

Global Citizenship

In this project, youth discover the world, learn what it means to be a global citizen, and about other cultures and cultural exchange programs. Youth will learn about global citizenship and become more involved in the world by participating in 4-H exchanges, either as a host or by traveling to another country, or both.

Level 1: Complete a cultural study and seven activities. Level 2: Complete three activities and ask your family to host an international exchange delegate (ages 10+); prepare for and reflect on your experience. This project can be completed throughout your 4-H career.

M Passport to The World, 807, \$8.00

Interstate Exchange/Hosting

Interstate Exchanges give an opportunity to travel and learn about other states within the United States. Learn about geography, meet people, and have lots of fun traveling and sightseeing.

Complete a project journal that includes the areas outlined in the youth guide and plan a project report using a medium such as TV, radio or a newsletter. Eligibility guidelines for the exchange program are set by counties.

M MT 4-H Interstate Exchange and Hosting, Youth Guide, 5328, \$5.50

L MT 4-H Interstate Exchange and Hosting, Recommended Best Practices, 5329, available free online

Citizenship Independent Study/Advanced (see pg 8)

Leadership

Through the 4-H leadership project, youth build communication, teamwork, decision-making, and goal-setting skills by taking active roles in planning, leading, and serving in real-world experiences.

Leadership

Must be 13 years of age on Oct. 1 of the current 4-H year, have completed at least one year in 4-H and be enrolled in at least one other 4-H project. All 4-H Ambassadors must enroll in this project.

Leadership is an active process, a set of knowledge, attitudes and skills in working with others toward a common goal. This project is designed to teach teens to be better leaders through educational experiences, service and practice. After enrolling in the Leadership project, youth should cooperatively decide on an area of focus with their leader or agent. Youth will develop an individualized learning and action plan for leadership development; organize the necessary resources, implement a leadership plan, evaluate outcomes and make changes to improve it.

Complete a minimum of six activities, with one activity from each of the six leadership skills. Youth must also create, implement and evaluate a plan of action. In level one, it is recommended that you select one activity per chapter.

M Learning to Lead: Leadership Level I, 5330, \$9.50

M Leading to Learn: Leadership Level II, 5331, \$6.75

M Leadership – Plan of Action, 4HDL11, available free online

Leadership Independent Study/Advanced (see pg 8)

FOODS AND NUTRITION

Cake Decorating

When youth enroll in cake-decorating projects, they can develop creativity, attention to detail, and hands-on baking and decorating skills while designing edible projects.

Cake Decorating, Level 1

In level one, members will learn to bake and frost single-layer cakes and learn simple decorating procedures. This cake-decorating manual outlines goals, skills, and techniques for the project's four levels. After a few lessons and a lot of practice, you will be able to decorate beautiful cakes for birthday parties, anniversaries, and other special days.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Cake Decorating, 5341, \$12.00

Cake Decorating, Level 2

In level two, members will learn to bake two-layer cakes and make flat-surface flowers, simple nail flowers, roses, a variety of borders and special effects such as Cornelli lace, lattice work, basket weave and others.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Cake Decorating, 5341, \$12.00

Cake Decorating, Level 3

In level three, members will learn to bake stacked and tiered cakes, master all flat-surface flowers, and make flowers using a lily nail.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Cake Decorating, 5341, \$12.00

Cake Decorating, Level 4

In level four, members will design various patterns using techniques learned in levels 1–3, experiment with scratch recipes and decorate cakes with their own designs.

Check with the MSU Extension office for appropriate guidelines for project completion and achievement recognition.

M 4-H Cake Decorating, 5341, \$12.00

Cake Decorating Independent Study/Advanced (see pg 8)

Cooking

The 4-H cooking project allows youth to gain experience in preparing meals while learning nutrition, food safety, kitchen skills, and meal planning. The cooking project helps members build confidence, creativity, and responsibility as they apply practical cooking skills.

Cooking 101

This project is for young people who are just learning to cook and bake. Among other topics, youth learn how to use MyPlate, avoid spreading germs while cooking, measure and mix ingredients, test baked goods for doneness, brown meat, and set the table for a family meal. The curriculum comes as loose-leaf paper to make it easier for youth to pull out recipes.

Complete at least two dishes from each recipe section: snacks, side dishes, breads and desserts. Members must also complete

two learning experiences and one community service experience. It may take up to two years to complete this level.

M 4-H Cooking 101, **01512Y**, \$14.00

Cooking 201

This level builds on the skills learned in 4-H Cooking 101. The recipes are also designed to build on one another, using shared bases across multiple recipes. Youth will also learn how to prevent foodborne illnesses, thaw frozen foods, use proper knife techniques, read nutrition facts labels, and make soups, rice, pasta, and other foods. The curriculum comes as loose-leaf paper to make it easier for youth to pull out recipes.

Complete a minimum of two dishes from each recipe section: fruits, vegetables, grains, meat and beans, milk, and desserts. Give two to three informal demonstrations on food or kitchen safety to your helper, leader or club. Demonstrate knowledge of Cooking “How To” Basics. Complete at least one community service experience. It may take up to three years to complete this level.

M 4-H Cooking 201, **01513Y**, \$12.00

Cooking 301

The 4-H Cooking 301 project builds on the skills learned in 4-H Cooking 101 and 201. Members plan and prepare food for a party, learn how to make yeast breads and rolls, bake shortened cakes, cook with slow cookers and prepare food on a grill. The curriculum comes as loose-leaf paper to make it easier for youth to pull out recipes.

Complete a minimum of two dishes from each recipe section: fruit, vegetables, grains, meat and beans, milk and desserts. Give two to three demonstrations to your helper, leader, or club. Complete one or two food science experiments. Complete at least one community service experience. It may take up to three years to complete this level.

M Cooking 301, **01514Y**, \$12.00

Cooking 401

In advanced level Cooking 401, members prepare ethnic foods, bake flatbreads and ethnic breads, make candy, bake pastries, bake foam cakes, use dry-and-moist cooking methods, and plan and prepare celebration meals. The curriculum comes as loose-leaf paper to make it easier for youth to pull out recipes.

Complete a minimum of two dishes from each recipe section: fruit, vegetables, grains, meat and beans, milk and desserts. Give three to five demonstrations to your helper, leader or club. Complete one or two food science experiments. Complete at least

one community service experience. It may take up to three years to complete this level.

M Cooking 401, **01515Y**, \$12.00

M Kitchen Boss, **4H476**, \$16.50

Additional Resources for All Levels

L 4-H Cooking Helper's Guide, **01516F**, \$8.00

Cooking Independent Study/Advanced (see pg 8)

Baking

Youth in the 4-H baking project explore baking while learning baking techniques, kitchen safety, measuring skills, and the science behind baking. By creating and evaluating baked goods, members strengthen their creativity, responsibility, and problem-solving skills.

Baking 1

Baking 1 helps new bakers learn baking basics such as nutrition, measuring and kitchen safety. Youth will learn these basics by making quick breads and cookies.

Complete this project with a minimum of seven activities each year. It may take up to three years to complete this level.

M Baking 1, 4HDL07, available free online

Baking 2

In Baking 2, youth will learn how to make more advanced quick breads and cookies. Youth will also review basic measuring techniques and baking terms and demonstrate the proper way to use baking equipment and utensils when making the recipes.

Complete this project with a minimum of seven activities each year. It may take up to three years to complete this level.

M Baking 2, 4HDL08, available free online

Baking 3

Baking 3 is an introduction to yeast breads. It is very different from Baking 1 and 2 and teaches different techniques. This level will encourage creativity, as baking yeast bread develops members' ingenuity.

Complete this project with a minimum of seven activities each year. It may take up to three years to complete this level.

M Baking 3, 4HDL09, available free online

Baking 4

In Baking, 4 advanced bakers learn about baking cakes, pastry recipes and techniques and troubleshooting.

Complete this project with a minimum of seven activities each year. It may take up to three years to complete this level.

M Baking 4, 4HDL10, available free online

Baking Independent Study/Advanced (see pg 8)

Food Preservation

By practicing canning, freezing, drying, and other preservation methods, youth in the food preservation project develop practical food safety, nutrition, and resource management.

Food Preservation

This advanced-level project is designed to help youth preserve produce from their garden, a store, or a farmer's market so they can enjoy nutritious fruits and vegetables year-round. Members will explore different home preservation methods, understand how a food's pH determines which preservation method to use, gather the proper equipment for water bath canning, track when produce becomes ripe, learn how to home preserve produce using the freezing method, and home preserve applesauce using the water bath canning method..

Complete seven activities, at least two learning experiences and be involved in at least two leadership or citizenship experiences.

M Canning and Freezing, 4H670, \$16.50

Food Preservation Independent Study/Advanced (see pg 8)

SUPPORT MATERIALS

Montana 4-H offers a number of publications and other materials that support the efforts of leaders and members.

www.montana.edu/4h/projects/index.html

www.montana.edu/4h/volunteer/index.html

CLOVER by 4-H

CLOVER is an online learning platform that empowers all young people to find their spark.

It creates impactful learning experiences in partnership with 100+ top-tier universities, featuring 190+ online interactivities for ages 5-18, interactive content, gamification and augmented reality. Use CLOVER to support Montana 4-H projects and to explore new possibilities. Accessible at <https://4-h.org/clover/about/>

4-H Record Book and Project Completion Guidelines

montana.edu/4h/projects/support/record_books/index.html

Topics on this site include – why have record books, how to make them valuable, what records to use, videos to help you complete, online record books and much more.

Montana 4-H Record Books are now available online through a mobile-friendly website (ZSuite). It mirrors the Montana 4-H record sheets in an easy-to-use, efficient format. To access ZSuite, members or club leaders should contact the MSU Extension office for more details. After entering information, a printed version can be downloaded that looks nearly identical to records you write in.



4-H Member Records

- My 4-H Year Member Record, 2FM0263, available free online
- Non-Animal Project Record, 2FM0264, available free online
- Animal Project Record, 2FM0265, available free online

4-H Club Materials

- Montana 4-H President and Vice President's Book, 5244, \$4.50
- Montana 4-H Historian Book, check with your MSU Extension agent
- Montana 4-H Secretary's Book, 5327, \$4.50
- Montana 4-H Treasurer's Book, 5242, \$4.50
- Montana 4-H News Reporter's Book, 5243, \$2.50
- Montana 4-H Youth Officer Training, 5335, \$4.75
- Guide for Simplified Parliamentary Procedure, 5363, \$4.00
- Parliamentary Practice for 4-H, 5303, \$4.00

4-H Leader Materials

- Clover Selection Guide, 5173, \$1.50, or available free online
- Montana 4-H Volunteer Quickstart Guide, 5357, \$3.00
- New 4-H Volunteer Folder, 5359, \$5.00
- Getting Started as a 4-H Project Leader, L90530, \$3.50
- Montana 4-H Councils and Committees Guide, 5281, \$4.50
- Montana 4-H Leaders' Handbook, 5271, \$4.50
- New 4-H Family Handbook, 5280, \$3.50
- New 4-H Family Folder, 5358, \$4.50
- 4-H Family Welcome Booklet, 5356, \$1.75
- Starting a 4-H Club in Montana, 5278, \$2.50
- Montana 4-H Youth Officer Training, 5335, \$4.75
- 4-H Past, Present, Possibilities: Exploring 100 years of Montana 4-H, 5333, \$15.95

Clover Communications

Get comprehensive guidelines, tips, techniques and scoring rubrics for demonstrations/illustrated talks, prepared speeches, impromptu speeches, career communications, commercials and promo packages. This book gives detailed instructions for volunteers, leaders, parents and 4-H members in a variety of communications areas.

- M Clover Communications, 5342, \$8.50
- L Clever Clover Communication: Grab and Go Activities for 4-H Volunteers.

Several MSU Extension agents captured favorite lessons that are quick and easy to follow. Club leaders, camp counselors, and teen leaders will be able to grab a lesson, have a quick review of supplies and be able to present communications activities with ease. Download at the 4-H website.

Service Learning

Learn how to research and identify a topic, create an action plan, carry it out and then celebrate your successes. Recruit others from your club and make it a group project. You'll be able to apply your skills and knowledge to a real problem in your community or in the world.

- M Agents of Change, Level 1 for Middle School Youth, **BU8182**, \$7.25
- M Raise Your Voice, Level 2 for High School Youth, **BU8183**, \$7.25
- L Service Learning Helper's Guide, **BU8184**, \$7.25.

Find group service learning activities like community mapping, identifying group roles and journaling. It offers advice for mentors seeking to guide youth through enriching learning experiences. Reflective journaling helps leaders explore their personal leadership styles and the value of service.

Certificates and Planning Materials

Certificates of Achievement, Cloverbud Competition Certificates, Volunteer Leader Certificates, and Yearly 4-H Club Planning resources are available from your local MSU Extension agents and staff, who can access them online.

ADDITIONAL RESOURCES AND ENRICHMENT

The curriculum listed under each 4-H project has been used in afterschool, in school and special interest group projects very successfully.

The additional curriculum listed below has been effectively used across the state for afterschool programs, project days, day camps and school programs.

If publications are not available from MSU Extension Publications, they can be purchased from the resource listed.

Geared for Age 5–7

- Growing Up Wild, Age 3–7, \$25.20, available through www.fishwildlife.org/projectwild/growing-wild. Growing Up Wild is an early childhood education program that builds on children's sense of wonder about nature and invites them to explore wildlife and the world around them.

Geared for Age 8–19

Bioscience

Bioscience is the study of living organisms. There are three units in this project and when you finish, you will be able to design experiments. In the neuroscience unit, learn the anatomy of the brain and nervous system, explore the visual system, and examine how you learn and store information as memories.

In the metabolomics unit, learn how living cells process fats, carbohydrates, proteins and other chemicals to sustain life. In the infectious diseases unit, learn details about bacteria's structure, the way they reproduce, how they cause infection, and the role of antibiotics.

- M Neuroscience: Getting to Know Your Inner Self (Unit 1), 5347, \$10.00
- M 4-H Metabolomics: You Are What You Eat (Unit 2), 5348, \$10.00
- M 4-H Infectious Diseases: Bacteria (Unit 3), 5349, \$10.00

Weather, Weeds, Wind and Woods

- Project Learning Tree, K-12, Contact Lexi Smith, MSU Extension Forestry to get trained. Project Learning Tree is an award-winning environmental education program designed for teachers and other educators, parents, and community leaders working with youth from preschool through grade 12.
- Acres of Adventures, 2 book set \$17.95, available through shop4-h.org/. Each book in this two-volume series features 40 child-tested activities that can be administered in a 30-minute period with additional ideas for extending the activity time.
- Discover 4-H Clubs – Utah State University. These books provide a series of activities to do with youth. Each book has about 7 activities. Areas available to download include planet energy, archaeology, beading, family history, sewing, fitness, dog, and many more. utah4h.org/discover/

Power of the Wind

Youth will learn how the energy of the wind is transferred to machines to do work for us. Youth will also learn to think as an engineer and design and improve projects. Youth will use engineering skills to perfect their own designs. Some of the activities include a wind powered boat, making a Beaufort scale, observing and measuring wind and creating and testing a pinwheel.

- M The Power of the Wind Youth Guide, **BU8383**, \$7.25
- L The Power of the Wind Facilitator Guide, **BU8384**, \$7.25

4-H Weather and Climate Youth Learning Lab

The goal of this project is to study the world of weather and climate, and specifically how they are influenced by natural processes and human activities. While this Leader's Guide is written for the four states of Colorado, Montana, South Dakota and Wyoming, it can be applied in any state or region. When you finish teaching these activities, participants will have a better understanding of natural forces and human impacts through using the learning labs and conducting hands-on experiments and activities.

- M/L 4-H Weather and Climate Youth Learning Lab, Leader's Guide, 5351, available free online

Noxious Weeds

MSU Extension Publications, store.msuextension.org, also offers a wide array of informative resources to help both teachers and students learn about noxious weed identification, management, and impacts.

- kNOweeds K-12 Invasive Plant Curriculum, available for download: <https://www.missoulaeduplace.org/youth-education#:~:text=kNOweeds%20Curriculum,in%20the%20state%20of%20Montana>. This curriculum is designed to be a supplemental curriculum for teachers who want to integrate the topic of invasive weeds into their existing courses.

Junior Master Gardener

Junior Master Gardener, Level 1, Grades 3-5 and Level 2, Grades 6-8 <http://jmgkids.us/curriculum/>

- Teacher/Leader guide, \$56. Youth Handbook, \$15. The JMG teacher/leader guide provides teachers with tools to teach the world of gardening with eight chapters of novel, "hands-on" activities.
- Operation Thistle, Plant Growth & Development, \$56.
- Operation W.A.T.E.R., Soils and Water, \$56.
- Junior Master Gardener: Literature in the Garden, \$56. Cultivate a connection to children's literature through gardening with this award-winning curriculum.
- Junior Master Gardener: Wildlife Gardener, \$56. The combined resources of the National Wildlife Federation and the Junior Master Gardener Program contribute to this curriculum about the habitat needs of wildlife and appreciation for the environment, including a community service learning project.

Animal Science

Materials are supplemental resources for livestock projects.

- M Livestock Quality Assurance for Youth Producers, 5300, \$8.00
- M 4-H Livestock Sales, 5310, \$2.75
- M What's in my Water? Assessing Water Suitability for Livestock, Participant Guide, 5360, \$4.50
- M What's in my Water? Assessing Water Suitability for Livestock, Facilitator Guide, 5361, \$9.75
- M New Mexico 4-H Horse Judging Manual, 200R48, available free online
- M Montana Judging Card, 5355, available free online or 4-H website
- M National 4-H Poultry Judging, 4H460, \$8.45

Healthy Decisions

Keeping Fit & Healthy

First Aid in Action: Youth practice first aid skills to treat cuts, scrapes, nosebleeds and bee stings. They learn how to respond to someone who is choking or has broken a bone; assemble a first aid kit; and interview members of the medical profession. Found at shop4-h.org/

Food Science

What's on Your Plate: Exploring Food Science shop4-h.org/. What's On Your Plate is a comprehensive food science curriculum with hands-on experiments - some of which learners can eat as they discover the science behind food preparation. Youth will conduct food experiments, collect and analyze data and explore career opportunities. The youth science journal leads learners through the experiments and provides them with use-at-home information.

- Level 1, Unit 1 uncovers the "Secrets of Baking" with activities to understand science of baked goods – gluten, leavening and proper mixing. The first activity is "Great Globes of Gluten."
- Level 2, Unit 2 "The Power of Protein Chemistry" explores the many ways eggs are used in foods and how milk turns into cheese.
- Level 3, Unit 3 dives into "The Inner Mysteries of Fruits and Vegetables." Activities include how to prepare fruits and vegetables so they look and taste appealing in color and texture. There are experiments that help youth discover process osmosis and diffusion when cooking fruit.
- Level 4, Unit 4 the "Be a Food Scientist" lets learners look at a day in the life of a food scientist, as well as practice being one as they create a new beverage and learn about crystallization.

Food: Party Planner

An opportunity for youth to develop knowledge and understanding of nutrition, menu planning, safe food handling skills, kitchen equipment safety, consumer skills, fitness, meal and time management and careers related to food and nutrition. The manual can help you have as much fun planning as attending parties and other events.

M Party Planner: A 4-H Guide to Quantity Cooking, 4H477, \$16.50

S MyPlate, www.choosemyplate.gov/

Bicycle

In the bicycle project, learn and practice good bicycle safety habits, enjoy bicycling for exercise and learn about the parts of the bicycle and how to maintain it.

M Bicycling for Fun, **BU8334**, \$7.25

M Wheels In Motion, **BU8335**, \$7.25

L Bicycle Helper's Guide, **BU8336**, \$7.25. This guide is designed to provide engaging and fun group activities for cycling enthusiasts. It contains information and activities related to basic bicycle handling, traffic skills and bicycle events and activities the whole group will enjoy.

Child Development

What can you do to help yourself and others handle emergencies, develop home-alone skills, stay healthy, and relate appropriately to others? All of these issues are covered in this child development curriculum.

M Level A, Building a Bright Beginning, **4H973**, \$12.50

M Level B, Building Blocks of Learning, **4H974**, \$12.50

M Level C, Building a Strong Foundation, **4H975**, \$12.50

M Level D, Building Relationships Toward a Brighter Tomorrow, **4H976**, \$12.50

Communications

Experiential activities provide opportunities for youth to practice and gain confidence in communicating. A local speakers Bureau or Toastmasters might provide additional opportunities for youth to learn. (This curriculum is written as a facilitator guide.)

M Communications, Module 1 (Beginner, grades 3-5), **01508F**, \$8.50

M Communications, Module 2 (Intermediate, grades 6-8), **01509F**, \$8.50

M Communications, Module 3 (Advanced, grades 9-12), **01510F**, \$8.50

Theatre Arts

Three books are written for the group facilitator who will lead a group of youth in Theater Arts discovery. This curriculum will help youth understand the power of non-verbal communication, improvisation, pantomime, script writing, cultural and historical influence, stage design, and costume design. Life skills and workforce development are woven throughout the curriculum, as youth master more sophisticated theater techniques and ideas.

M/L Imagination in Action, Beginner, **BU8445**, \$9.50

M/L Imagination in Action, Intermediate, **BU8446**, \$9.50

M/L Imagination in Action, Advanced, **BU8447**, \$9.50

VOLUNTEERING WITH 4-H

Volunteers are the lifeblood of the Montana 4-H program and are recognized as partners with MSU staff in offering quality experiences for youth. 4-H volunteers are essential to the Montana 4-H Youth Development program.

Extension staff members and volunteers have the potential to profoundly impact the well-being of 4-H youth members. In addition to providing safe, caring environments for youth, Extension staff and volunteers must also be positive role models. These individuals must focus on positive communication with 4-H youth, address challenges in a positive manner, and concentrate on the individual needs of all youth. The responsibility for the well-being of 4-H youth lies with all individuals involved in the 4-H program.

An adult volunteer is anyone at least 19 years of age, who without salary/wage or expectation of salary/wage, performs a task at the direction and on behalf of the 4-H program. In some special cases, volunteers may receive a stipend for a specific service or program. Volunteers under 21 years of age cannot serve as chaperones for overnight events, transport youth, or serve as a certified shooting sports leader.

Certified Volunteer Roles

A certified volunteer is someone who has completed the Montana 4-H certification process. Volunteers working in direct contact with youth must be certified. The following roles are certified positions.

4-H Organizational Leader

The adult who is responsible for the proper functioning of the 4-H club and who works cooperatively with the local Extension office.

4-H Project Leader

An adult responsible for a given project area in the 4-H club or county.

4-H Club/Project Volunteer

A volunteer who assists the Organizational Leader or Project leader to carry out club and project functions.

Chaperones

Adult volunteers (over 21) who serve as chaperones for various events, including events with overnight stays.

Certification Process

To become certified, a volunteer must complete the following:

- Complete volunteer application on ZSuite including:
 - Application
 - Review and sign Disclosure and Consent form
 - Review and sign Media Release
 - Review and sign 4-H Volunteer Agreement
- Pay any county fees.
- Pass criminal background check. Background checks are done through Sterling Volunteers.
- Reference checks. (If applicable) Montana 4-H may check references provided by the applicant.
- Complete Montana 4-H volunteer orientation training. Training is completed in ZSuite.
- Counties may have additional steps required for certification.

Re-enrollment

Volunteers are required to re-enroll each new 4-H year before volunteering and working with youth. Re-enrollment process includes:

- Review/update application through ZSuite
- Complete and sign personal background update form
- Sign volunteer agreement
- Sign media release

If a volunteer skips a year of service, they are required to repeat the certification process.

MONTANA 4-H FOUNDATION

— A sponsor of the Clover Project Selection Guide —

Funding ur Future

Investing in Montana Youth and Communities through 4-H

The Montana 4-H Foundation raises and stewards funds to strengthen 4-H programs statewide. Donor support creates life-changing opportunities for youth, volunteers, and educators—making a lasting impact in Montana communities.

Purchase Your Montana 4-H Calendar

Don Greytak of Havre has shared his pencil artwork for the Montana 4-H calendar since 1992, capturing rural life and agricultural heritage with remarkable detail. His work brings Montana's traditions to life while supporting 4-H programs across the state. Calendar sales also create valuable fundraising opportunities for local 4-H programs.

Display this distinctive artwork in your home or business, while supporting Montana 4-H. Order your calendar through your local MSU Extension office or shop at mt4hfoundation.org.



Member Contributions: Powering Opportunities for Every 4-H Youth

Annual member contributions play a vital role in ensuring that every Montana 4-H youth has access to high-quality programs, trained volunteers, and meaningful learning experiences. These essential funds support the work of the State 4-H Center, including volunteer training, risk management, curriculum development, and statewide program coordination that strengthens every club.

Thank you for your annual membership contribution and for helping make opportunities possible for every Montana 4-H youth.

Sport a 4-H License Plate

Take your 4-H enthusiasm with you wherever you go with a specialized Montana 4-H License Plate. Visit your Motor Vehicle Division to get started. License plates support volunteer background checks, the Montana 4-H Foundation, and the Montana 4-H Council. Learn more at <https://mvdmt.gov/portfolio-item/montana-4-h-foundation/>.



Your Donation Makes a Difference

Every act of generosity helps build a stronger future for Montana's youth. Join us in shaping the next generation of leaders by sharing your time, contributing your talents, or giving your treasures to the Montana 4-H Foundation.

The Montana 4-H Foundation has raised private funds and partnered with Montana State University Extension to support educational opportunities for Montana 4-H youth, volunteer leaders, and staff since 1969. The Montana 4-H Foundation operates as a 501(c)(3) nonprofit organization in affiliation with MSU Extension.

Scan to donate to the Montana 4-H Foundation

mt4hfoundation.org

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montana.edu/extension/4h

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