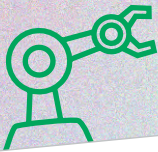


**WISCONSIN 4H**

# PROJECT GUIDE



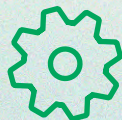
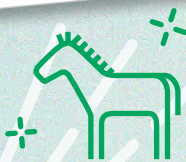
Robotics Project



Dairy Project



Shooting Sports—Archery Project



**Extension**  
UNIVERSITY OF WISCONSIN-MADISON



# What Is 4-H?



4-H is the nation's largest youth development and empowerment organization.



In Wisconsin, **more than 26,000 youth** are members of 4-H. The 4-H programming aims to engage youth in activities to increase their leadership, communication, and critical thinking skills. Our programs center on the 4-Hs—**head, heart, hands, and health**. This is the foundation for everything we do.

Wisconsin 4-H has over **5,600 volunteers** who serve as mentors for 4-H youth. They help provide a safe, engaging place for youth to take risks, practice independence, and master new skills. Research shows there are many benefits to being involved in 4-H. 4-H youth are<sup>1</sup>:

## 4X

more likely to **make contributions** to their communities

## 2X

more likely to be **civically active**

## 2X

more likely to participate in **out-of-school programs**

## 2X

more likely to make **healthier choices**



## 26K+ 4-H CLUB

## MEMBERS ACROSS WI

1 Lerner, R. M., et. al. (2005). *4-H Study of Positive Youth Development*. Retrieved from: [4-H.org/about/research](https://4-h.org/about/research).  
Graphic from [National 4-H Council FY 2019–2021 Strategic Plan](#).

# What Is a 4-H Project?

A 4-H project is a specific area of interest for 4-H members and volunteers. Youth choose which project(s) they want to enroll in each year. In 4-H, we believe in "learning by doing." That means project participation involves hands-on learning in the activities that spark youth interest.

## Project Area Learning Opportunities

Youth may explore a project independently, or several members interested in the same subject or topic can form a project group. Some, but not all, projects have volunteers to lead youth groups in hands-on learning. Check the county 4-H website or contact the 4-H educator to find out what options are available.

- **Club Project Meetings**—Volunteer club project leaders and/or youth leaders may organize project activities during club meetings.
- **County-wide Project Meetings**—County-wide education committee volunteers and/or 4-H program educators may organize educational opportunities at a county level.
- **Statewide Project Area Learning Events**—Statewide education committee volunteers and/or 4-H program educators may organize project learning opportunities for youth across the state.
- **Individual Learning**—Youth can learn at their own pace using 4-H curriculum.

**This guide gives youth and families a chance to explore all the projects Wisconsin 4-H has to offer in seven project groupings:**

	<b>Expressive Arts</b> ..... page 8
	<b>Leadership and Community</b> ..... page 10
	<b>Family, Home, and Health</b> ..... page 12
	<b>Agriculture and Animal Science</b> ..... page 14
	<b>Plant and Soil Science</b> ..... page 17
	<b>Environmental/Outdoor Education</b> ..... page 18
	<b>Science, Technology, Engineering, and Math (STEM)</b> ..... page 20

 The **Sparks Road Map** on **page 6** can help if you are unsure where to start.

## Self-Determined Projects

Self-determined projects are your chance to explore beyond what 4-H usually offers! If you look at all the projects listed in this guide and still don't see your Spark, you can choose a self-determined project. Make sure to plan what you want to do in the project. Be specific and write down your goals.

This project area is available in each of the project groupings. It is most suitable for older youth ready for more self-paced, self-guided learning.



### Looking for project resources?

Visit **projects.wi4h.org** for more information.



### Looking for learning opportunities?

Visit **opportunities.wi4h.org** for statewide events and opportunities.



### **VOLUNTEERS** are essential to 4-H project area

**learning.** Adult family members, community members, and local experts can all become 4-H Project Leaders. If you or someone you know is interested in learning more, connect with your local 4-H program educator.





# How to Get Started

## QUICK LINKS



Find your county  
Extension website:

[counties.extension.wisc.edu](http://counties.extension.wisc.edu)



4-H Online:  
[wi.4honline.com](http://wi.4honline.com)

## GETTING INVOLVED IN 4-H IS AS EASY AS 1-2-3!

1. **Join a 4-H Club**—Visit your [county's Extension website](#) to learn more about 4-H clubs. You can join any time of year.
2. **Create a 4-H Online account**—Youth can enroll in Wisconsin 4-H through 4-H Online. Re-enrollment is required each year.
3. **Choose your project areas**—Project areas are specific areas of interest for 4-H members and volunteers. Youth may explore a project on their own, or several members interested in the same subject or topic can form a project group. Sign up for the project areas you want in your 4-H Online enrollment.

### Tips for choosing a project area

- To narrow down the project list, think about:
  - ✓ Things you are passionate about
  - ✓ Causes that matter to you
  - ✓ Emotions you appreciate about yourself
  - ✓ People, places, or things that matter most to you
- Then, choose the projects you want. Consider starting with two project areas:
  - ✓ One you are already familiar with and interested in
  - ✓ One you want to explore more
- Youth in grades 5K-2 may only sign up for the Cloverbud project, which is a chance for them to explore all 4-H has to offer at an age-appropriate level.
- The **Sparks Road Map** ([page 6](#)) can help if you are unsure where to start.
- Check with your county Extension office to learn if there is a fair deadline for project sign-ups.

## BENEFITS OF GETTING INVOLVED

How does 4-H project learning help youth build skills and thrive over time?  
Let's look at some examples.

### Evy

**At age 9,** Evy signed up for the Food & Nutrition project. She took part in her first county-level Foods workshop.

**By age 12,** Evy had several friends in the project area. They liked to talk about and plan the foods they were working on and what they would exhibit at the Fair the following year.

**At age 15,** Evy signed up for a meal planning challenge at her school. She earned second place in a competition and looked forward to returning the following year.

**At age 17,** Evy considered becoming a chef. After an internship at a local restaurant, she decided to go to school for business instead.

**As an adult,** Evy combined her love of food and her business degree to open a food co-op in the community.





## Joey

**As a youth** in the Cloverbud project, Joey loved taking pictures of his dog and entering them as exhibits at the county fair.

**At age 8,** he participated in as many Photography project meetings as possible. He attended the 4-H Arts Festival and learned from his peers' photos.

**At age 11,** he joined the 4-H Photography Club. The club organized a photography contest for the community, and he helped plan it.

**At age 14,** he started leading demonstrations for younger youth. He liked helping as a judge for the younger age group during the community contest.

**At age 16,** he joined the yearbook team at his school as a photographer and writer.

**At age 19,** he started taking photos at local community events and submitting them to the local newspapers with articles he'd written.

**As an adult,** he continues to do freelance work with the local paper and several statewide magazines. He has a photography blog.



## Nyah

**As a youth** in the Cloverbud project, Nyah loved learning about horses.

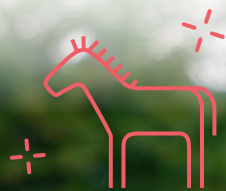
**For several years,** even though she didn't own a horse, she took part in the Horse project, learning everything she could about them.

**At age 10,** Nyah got to work with a 4-H volunteer's horse at their ranch. She committed to going at least four times each week to help with care and training.

**She continued** to work with the horse for years, showing it at the Fair and in several riding competitions.

**At age 17,** she decided she wanted to go to college to become a pharmacist. Because of her experience in the Horse project, she understood how medicine can help people and animals. She also had the determination to work hard and achieve her goals.

**As an adult,** Nyah now works at a local pharmacy by day. She volunteers with 4-H youth in the Horse project during evenings and weekends.

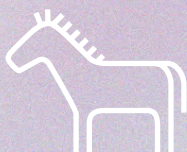




# Find Your 4-H SPARK Project Area

**START HERE!**

Follow the arrows to explore  
your project options with 4-H.



**Do you enjoy working  
with animals?**

**YES**



You may want to explore  
**AG & ANIMAL SCIENCE**

Youth in **Ag & Animal Science** enjoy things like raising healthy animals for fun or food, riding horses, caring for pets, or teaching their dog tricks.

**YES**

**NO**



You may want to explore  
**ENVIRONMENTAL/  
OUTDOOR EDUCATION**

Youth in this project area enjoy things like riding ATVs and snowmobiles, learning about insects, hiking, adventure sports, and protecting the environment.

**Do you enjoy creating  
delicious food,  
decorating your room,  
or working with  
younger children?**



**What do you like  
to do indoors?**

**NO**

**Do you love spending  
time outside?**

**YES**

**YES**



You may want to explore  
**PLANT & SOIL SCIENCE**

Youth in **Plant & Soil Science** enjoy things like growing vegetables or flowers, growing crops, learning about soil, or creating a fairy garden.



NO

Do you enjoy exploring new technologies, creating experiments, and discovering the basics of programming?



Visit [projects.wi4h.org](https://projects.wi4h.org) for more information on each project category.

YES



You may want to explore **FAMILY, HOME, & HEALTH**

Youth in **Family, Home, & Health** enjoy learning about things like babysitting, interior decorating, sewing, helping around the house, being healthy, and cooking or baking.

NO

YES



You may want to explore **STEM**

Youth in **STEM** (science, technology, engineering, and math) enjoy things like building with LEGO®, problem solving, working with engines or electricity, exploring outer space, coding, robots, and building things.

Do you like to spend time making plans, helping run events, and completing projects?

YES



You may want to explore **LEADERSHIP & COMMUNITY**

Youth in **Leadership & Community** enjoy things like helping younger kids, being camp counselors, leading and organizing events, exploring culture (their own and others'), and working with a team on special projects.

NO



You may want to explore **EXPRESSIVE ARTS**

Youth in **Expressive Arts** enjoy making scrapbooks, collecting things, drawing or doing crafts, taking pictures, playing with puppets, or acting and singing.



# Expressive Arts

Art Appreciation • Computer Graphic Design • Creative Writing • Fiber & Textile Arts  
Folk Arts & Crafts • Performing Arts • Photography • Upcycling • Videography • Visual Arts



## Art Appreciation

Art is everywhere! In this project, youth will discover various art forms, grow their understanding of historical and cultural contexts, and develop their own creative expressions. Cultivate your creativity, critical thinking, and cultural awareness.

- **Beginner:** Define and discuss the purpose of art and art forms, and learn about line, shape, form, color, space, texture, and value.
- **Intermediate:** Understand the principles of art and how to use them in design. Study art from various cultures around the world.
- **Advanced:** Practice constructive critique methods through peer review. Explore, create, and perform performance art.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Join the [State 4-H Art Team](#). Submit entries to the Statewide Photography Contest.

## Computer Graphic Design

The Computer Graphic Design project introduces 4-H youth to the exciting world of digital art and design. Participants will learn to use graphic design software, develop their artistic skills, and create visually appealing projects.

- **Beginner:** Exploring different types of graphic design and basic graphic design software.
- **Intermediate:** Learn and use more advanced features of graphic design software to create more advanced projects.
- **Advanced:** Design a complete branding package and create a digital portfolio website.

### Learning opportunities

Go to [Arts Camp](#). Join the [State 4-H Arts Team](#) or [COMM Team](#).

## Creative Writing

This Creative Writing project inspires and nurtures the storytelling abilities of 4-H youth. Participants will explore various forms of creative writing, including short stories, poetry, and personal narratives. The project aims to enhance writing skills, boost confidence, and encourage self-expression.

- **Beginner:** Explore different types of writing and begin by writing one or more poems or stories to share.
- **Intermediate:** Deepen understanding of characters, conflict, and resolution and write in various genres (mystery, fantasy, science fiction, poetry).
- **Advanced:** Using narrative techniques, write a longer piece and compile a portfolio.

### Learning opportunities

Go to [Arts Camp](#). Join the [State 4-H Art Team](#), [COMM Team](#), or [Drama Company](#).

## Fiber & Textile Arts

Youth will explore fiber art techniques, including weaving, knitting, crocheting, felting, and embroidery. This project will help them develop fine motor skills, creativity, and an appreciation for the diversity of fiber arts.

- **Beginner:** Build basic fiber arts skills with weaving and/or knitting projects.
- **Intermediate:** Explore more complex patterns and combine techniques to create with fiber.
- **Advanced:** Learn and practice techniques for needle felting, embroidering, spinning, and more.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Join the [State 4-H Art Team](#). Attend the annual Wisconsin Sheep & Wool Festival.

## Folk Arts & Crafts

Youth will explore various folk arts, learn traditional techniques, and understand their cultural significance. This project will help youth develop artistic skills, cultural awareness, and an appreciation for the rich heritage of folk arts.

- **Beginner:** Learn about the history and significance of folk arts from around the world and create simple folk art projects.
- **Intermediate:** Learn more advanced folk art techniques, such as batik, advanced embroidery, and wood carving. Develop awareness of appreciation versus appropriation.
- **Advanced:** Master advanced folk art techniques, such as intricate beadwork, advanced weaving, or metalworking.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Attend a historical reenactor's camp. Go to a cultural event or festival where people lead demonstrations. Take part in workshops at a local 4-H learning event.





# Expressive Arts

Art Appreciation • Computer Graphic Design • Creative Writing • Fiber & Textile Arts  
Folk Arts & Crafts • Performing Arts • Photography • Upcycling • Videography • Visual Arts



## Performing Arts

The Performing Arts begin with imagination and creativity. Delve into the dynamic and expressive world of performing arts. Participants will learn various performance techniques, understand the cultural significance behind different performance styles, and create their own performances.

- **Beginner:** Explore different types of performance arts, their history, and their significance.
- **Intermediate:** Learn acting, music, dance, and choreography techniques.
- **Advanced:** Learn more advanced performance techniques, such as character development, improvisation, and playing melodies and harmonies.

### Learning opportunities

Join the [State 4-H Art Team](#) or [Drama Company](#). Take part in workshops at a local 4-H learning event.

## Photography

The 4-H Photography project helps youth explore the world through the lens of a camera. Learn about equipment, capturing great images, and sharing your knowledge with others.

- **Beginner:** Get to know your camera and practice with photo composition on different subjects.
- **Intermediate:** Begin to use manual settings to capture light in different ways.
- **Advanced:** Explore techniques with different lenses, filters and special film, light sources, viewpoints, framing, lines to lead the eye, and more.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Join the [State 4-H Art Team](#), [COMM Team](#), or [State Photography Committee](#). Submit entries to the Statewide Photography Contest.

## Upcycling

The Upcycling project teaches 4-H youth the importance of sustainability and creativity by transforming old or discarded items into new, useful products. Participants will learn various upcycling techniques, develop their crafting skills, explore the business of upcycled products, and contribute to environmental conservation.

- **Beginner:** Learn simple crafting skills (cutting, gluing, painting) and how to use basic tools safely.
- **Intermediate:** Design an upcycling project from start to finish.
- **Advanced:** Using advanced upcycling techniques, design and execute an upcycling project to benefit the community.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Join the [State 4-H Art Team](#).

## Videography

Videos are part of our daily lives. Learning to make videos teaches media literacy—the ability to fully understand media messages that come at us daily. Videography is art, communications, and technology all at once.

- **Beginner:** Create a storyboard to share your ideas and direction for your video.
- **Intermediate:** Explore camera equipment and techniques as well as editing software.
- **Advanced:** Using advanced filmmaking techniques, learn about the film production process.

### Learning opportunities

Go to [Arts Camp](#). Join the [State 4-H Art Team](#) or [COMM Team](#). Take part in workshops at a local 4-H learning event.

## Visual Arts

Is art your Spark? Cutting and pasting, painting, sculpting, drawing, printing, and construction with various materials are all exciting hands-on activities in the Visual Arts project. With art, you can share your thoughts, explore your emotions, find a career, or change the world.

- **Beginner:** Experiment with line, color, and ways to use materials to express yourself.
- **Intermediate:** Create using positive and negative space, the elements of art, and different types of media.
- **Advanced:** Use media techniques, processes, and design principles to create art. Understand visual art in relationship to history and culture.

### Learning opportunities

Go to [Art Beat!](#) or [Arts Camp](#). Join the [State 4-H Art Team](#). Take part in workshops at a local 4-H learning event.





# Leadership and Community

Civic Engagement • Cloverbud • Cloverbud Youth Leader • Communications • Community Service  
Exploring • Global & Cultural Education • History & Heritage • Intergenerational • Leadership • Workforce Readiness



## Civic Engagement

Discover what is important to you and others, set goals, take action, and build a stronger community. Through this project, you can become an active community member, investigate a public issue, learn about the roles of governing officials, and carry out a plan to solve a problem.

- **Beginner:** Learn about issues that face your community and ways to make group decisions.
- **Intermediate:** Write a goal and action plan for a community problem.
- **Advanced:** Lead an action plan and find ways to celebrate successes.

### Learning opportunities

Take part in state and national leadership conferences such as [Youth as Partners in Civic Leadership](#), [Summer Academy](#), [Citizenship Washington Focus](#), [National 4-H Conference](#), and [National 4-H Congress](#).

## Cloverbud

Cloverbud project activities involve youth in grades 5K-2 in learning at an age-appropriate level while having fun with hands-on, engaging activities. It's their chance to explore what 4-H has to offer.

The Cloverbud project offers a variety of activities that may include:

- Experimenting with science, technology, engineering, and math;
- Exploring their creative side with theater and visual arts;
- Diving into animal and plant science;
- Learning about themselves and others;
- Giving back to their communities through service projects;
- And more.

### Learning opportunities

Attend a Cloverbud Camp in your community. Take part in face-to-face judging at the county fair.

## Cloverbud Youth Leader

Become a Cloverbud Youth Leader and practice youth leadership skills like teamwork, communication, decision-making, and caring. The Cloverbud project is for youth in grades 5K-2. It is their chance to learn what 4-H has to offer. Youth leaders can help create a welcoming environment and lead activities.

- **Beginner:** Learn and practice strategies for creating a safe and welcoming environment.
- **Intermediate:** Help plan and lead youth activities in the Cloverbud project.
- **Advanced:** Join the leadership and planning team for a Cloverbud Camp.

### Learning opportunities

Use a variety of Cloverbud activities to plan a learning day for youth in grades 5K-2. Make a poster about the characteristics of youth in this age group.

## Communications

Communication is all about how we connect with others. That might be through listening, sharing information, telling stories, or giving a speech, American Sign Language (ASL) and other languages, giving a presentation or demonstration, writing, or body language.

- **Beginner:** Practice basic communication skills and learn how you like to communicate.
- **Intermediate:** Explore different communication methods, from social media to press releases.

- **Advanced:** Choose from activities such as learning ASL, resume writing, or digital storytelling.

### Learning opportunities

Record and edit a video that tells a story. Create a poster analyzing advertisements. Join the [4-H COMM Team](#).

## Community Service

In 4-H, we pledge our "hands to larger service." Community service is an essential part of 4-H clubs and groups. Service learning goes deeper by bringing together community needs, knowledge, and time to reflect. Youth may choose community service as their project focus, or it could be an activity they help with in other club or project spaces.

- **Beginner:** Take part in community service projects in the club or community.
- **Intermediate:** Get involved in a bigger service project and/or take on a leadership role in the project.
- **Advanced:** Lead or help plan a service project that involves other youth and adult volunteers.

### Learning opportunities

Survey or interview community members to learn more about them. Ask a non-profit organization how you can support them. Plan and conduct a local community service project with help from your 4-H club or group members.

## Exploring

This project is designed for first-year members of any age to learn about the many 4-H project areas or as a stepping stone from Cloverbud to other projects. Explorers complete a mini-project, learn about your club, and involve your family and friends in 4-H.



# Leadership and Community

Civic Engagement • Cloverbud • Cloverbud Youth Leader • Communications • Community Service  
Exploring • Global & Cultural Education • History & Heritage • Intergenerational • Leadership • Workforce Readiness



Exploring is a beginner project designed to be a way to:

- Sample some projects offered in 4-H;
- Learn the 4-H pledge and motto;
- Lead your family or friends in a fun activity;
- And more.

## Learning opportunities

Help your club or group with a community service project. Attend project workshops for different project areas to try something new.

## Global & Cultural Education

Lessons on global citizenship are as close by as your local grocery store, library, highway, or school. In this project, you'll gain self-awareness, explore the beliefs and views of others, and develop skills for talking with people who are different from yourself.

- **Beginner:** Choose a place or culture you are interested in. Explore its climate, music, food, language, and more. What do you want to know?
- **Intermediate:** Sign up to get a pen pal. What can you learn about yourself as you write letters or emails?
- **Advanced:** Plan a fictional trip to learn more. What would you do? Where would you go?

## Learning opportunities

Create a poster about the state or country you studied. Teach others about the place or culture.

## History & Heritage

Finding out about family history can be like going on a treasure hunt. Heritage is the history of a family, including the traditions, customs, foods, and more passed from one generation to the next.

- **Beginner:** Create a family tree and heredity chart for your family.
- **Intermediate:** Learn to conduct research into your family history from different sources.
- **Advanced:** Interview family members to gather more details and connect historical places and events.

## Learning opportunities

Make a scrapbook for your family. Do a presentation about what you learned. Visit a museum or special event to learn more about your family's history.

## Intergenerational

Do you know someone from another generation? Who are they? What do they care about? The Intergenerational project is your chance to connect with an older adult and make a difference in their life while they make a difference in yours.

- **Beginner:** Spend time with an elder in your family or neighborhood.
- **Intermediate:** List things you can do and where you might safely meet older adults.
- **Advanced:** Plan and lead an intergenerational event for a group.

## Learning opportunities

Visit and play games at a senior center. Interview an older adult. Record an elder's story with their permission.

## Leadership

Youth of any age can learn to be leaders—in their club, community, country, and world. In this project, you can build teamwork, communication, organization, goal management, meeting management, decision-making, and problem-solving skills.

- **Beginner:** Set a goal and work to achieve it.

- **Intermediate:** Teach others how to do something you love or help plan a service project.
- **Advanced:** Take on a leadership role in your club or community.

## Learning opportunities

Become a youth leader in another project area. Attend a board or committee meeting to see how they make decisions. Become a 4-H club officer. Participate in statewide 4-H youth leadership through [Fall Forum](#), [Wisconsin 4-H Leadership Council](#), or [Collegiate 4-H](#).

## Workforce Readiness

In these changing times, youth must prepare for careers and jobs that don't currently exist. Young people will need well-rounded skills to apply to any career and a willingness to learn about and try exciting new careers. This project will help equip youth with the soft skills to apply and interview for their first job during and after high school.

- **Beginner:** Learn about teamwork, decision-making, and time management skills.
- **Intermediate:** Explore careers and entrepreneurship options through job shadowing, research, and/or interviews.
- **Advanced:** Prepare the materials you need to apply for your first job and/or college.

## Learning opportunities

Attend the [4-H Summer Academy](#) with learning tracks to explore college and career options. Visit a career fair. Attend the [Youth as Partners in Civic Leadership Conference](#).



# Family, Home, and Health



Candy Making • Child Development • Consumer Savvy • Entrepreneurship • Food Decorating  
Food Preservation • Foods & Nutrition • Health • Home Environment • Personal Finance • Sewing • Sports & Fitness

## Candy Making

Youth in the 4-H Candy Making project will explore tools, techniques, safety precautions, ingredients, and more as they develop their skills. Based on specific skills, candy making is a chance to bring art and science into the kitchen!

- **Beginner:** Learn the tools and techniques of safe candy making, starting with chocolate dipping.
- **Intermediate:** Experiment with different types of crystalline candies.
- **Advanced:** Build your “candy portfolio,” adding non-crystalline candies to your skill set.

### Learning opportunities

Create a variety box of candies as a gift. Explore what it would take to start a candy business. Visit a candy shop. Challenge yourself to make a candy you find there.

## Child Development

Learn about children’s ages and stages, age-appropriate toys, healthy snacks, and how to create games or stories for children. Learn what it means to be responsible for children and how to be a good babysitter.

- **Beginner:** Make items like bags, hats, and masks. Learn how to keep your home safe.
- **Intermediate:** Make a family tree, prepare healthy meals, and create a circle of friends.
- **Advanced:** Learn about potential careers in child development and participate in a multigenerational service project.

### Learning opportunities

Visit a daycare center. Interview a professional in the child development field. Create fun, safe toys for children of various ages.

## Consumer Savvy

Mastering consumer skills will help you succeed in many areas of life. Set personal goals, communicate clearly, and make smart decisions with money.

- **Beginner:** Learn to make wise choices, set goals, and share with others.
- **Intermediate:** Discover your consumer rights and responsibilities, uncover advertising secrets, and learn how to shop safely online!
- **Advanced:** Explore the global marketplace, discover the joy of giving back, understand the actual cost of owning a car, and discover what real-life expenses are like!

### Learning opportunities

Make a display about safe online shopping for your county fair. Take a field trip to local businesses to compare prices. Create a budget for a grocery shopping trip.

## Entrepreneurship

Investigate what it means to be an entrepreneur by learning about community businesses, exploring business ideas, and determining your skills to make career choices.

- **Beginner:** Learn about community businesses.
- **Intermediate:** Learn about time management, ethics, and giving back to your community.
- **Advanced:** Develop a business plan and create a marketing strategy.

### Learning opportunities

Interview small business owners in your community. Make a poster about the differences between digital vs. “brick and mortar” entrepreneurship. Take a workshop about developing a business plan.

## Food Decorating

Creativity can be a piece of cake (or bread or other food)! This project teaches youth how to start making food for parties and events. It may start with knowing and practicing cake decorating skills and advance to creating beautiful works of food art. The only limits are ingredients and imagination!

- **Beginner:** Learn to bake and decorate single-layer cakes using simple decorating techniques.
- **Intermediate:** Learn to bake two-layer cakes and make various special effects.
- **Advanced:** Learn to make tiered cakes and design your own projects.

### Learning opportunities

Attend a cake decorating class. Give a food decorating demonstration at your club meeting. Interview a cake decorator about market, pricing, and advertising.

## Food Preservation

Does your garden produce more tomatoes than you know what to do with? In the Food Preservation project, youth learn to freeze and dry foods. Then, learn what to do with those tomatoes, cucumbers, and other produce with advanced food preservation techniques.

- **Beginner:** Learn to freeze fruits, juices, vegetables, meats, fish, and poultry with food-freezing basics.
- **Intermediate:** Make salsa, jams, jellies, and pickles.
- **Advanced:** Learn how to do pressure canning.

### Learning opportunities

Visit a farmer’s market to learn what local produce you can preserve. Volunteer to help with a community garden. Host a freezer meal-making session.



# Family, Home, and Health



Candy Making • Child Development • Consumer Savvy • Entrepreneurship • Food Decorating  
Food Preservation • Foods & Nutrition • Health • Home Environment • Personal Finance • Sewing • Sports & Fitness

## Foods & Nutrition

If you enjoy cooking or like good food, this project could be for you. Youth will have fun learning cooking basics and then advance over time to making gourmet meals. This project also focuses on nutrition and using MyPlate to guide eating, meal preparation, and planning.

- **Beginner:** Develop basic cooking “how to” skills.
- **Intermediate:** Practice different cooking techniques, including foods from different cultures.
- **Advanced:** Explore outdoor cooking, slow cooking, and cooking with spices and herbs.

### Learning opportunities

Volunteer at a food pantry. Bake with residents at a care center. Prepare a family meal each week. Teach friends how to make healthy snacks. Take part in a local Foods Revue or other food-related 4-H learning event.

## Health

The Health project helps youth explore health and wellness. Youth learn to assemble a first aid kit and treat minor injuries. They also learn to stay healthy and develop a personal fitness plan that includes physical, mental, emotional, social, and other aspects of health.

- **Beginner:** Design a family First Aid Kit.
- **Intermediate:** Learn how to fuel your body with healthy, delicious foods and make mental and physical fitness part of your routine.
- **Advanced:** Design a health and wellness plan and find exciting ways to stay active.

### Learning opportunities

Take a Red Cross or CPR class. Explore careers in health and wellness. Take a tour of a fitness center. Keep a journal of your fitness, activities, and food.

## Home Environment

Get creative with design, organization, and upcycling! Youth use decision-making skills, great taste, and big heart to make a difference through fun and meaningful activities that improve your room, home, and community.

- **Beginner:** Learn about principles of design (color, texture, line, and style).
- **Intermediate:** Create a project for organizing an area in your home or room.
- **Advanced:** Upcycle an older item from home, a garage sale, or a thrift store.

### Learning opportunities

Buy items from a thrift store to upcycle. Attend a workshop related to maintaining a home. Participate in Home Environment judging at the county fair.

## Personal Finance

Master money management skills! Learn how to save, budget, and make smart financial choices. Get ready to take control of your finances and build a bright future!

- **Beginner:** Explore wants and needs, track spending, and uncover the world of banking.
- **Intermediate:** Explore career planning, spending and savings plans, payment methods, and credit.
- **Advanced:** Discover career paths, investment options, and how to manage debt like a pro.

### Learning opportunities

Prioritize your wants and needs. Interview a professional in a career you are interested in. Visit a bank to learn more about financial management.

## Sewing

Have you ever wanted an outfit in a different color or style? Youth in the Sewing project learn basics like sewing a shirt or putting a zipper on a pair of pants. As youth advance, they may learn to choose and customize a design for the perfect look.

- **Beginner:** Recognize basic sewing machine parts and how to use them.
- **Intermediate:** Learn to read a pattern and expand your sewing techniques.
- **Advanced:** Create a pattern or learn to sew Regalia.

### Learning opportunities

Enter the county Fashion Revue. Tour a fabric store. Learn about clothing types and stain removal to do your family’s laundry. Create your own sewing business.

## Sports & Fitness

4-H members in this project will boost their sports skills and fitness! Learn fun ways to build flexibility, strength, and endurance while staying active and healthy. Let’s get moving together!

- **Beginner:** Find out which exercises you love and how they can keep you fit and active.
- **Intermediate:** Learn how nutrition can improve your fitness and sports performance.
- **Advanced:** Set goals, track your progress, and see how strong and active you can become.

### Learning opportunities

Attend a workshop related to fitness. Organize an activity at your club meeting that involves lots of movement. Prepare a project exhibit for a local fair.



# Agriculture and Animal Science

Beef • Cats • Cavies • Dairy • Dogs • Exotic Animals • Goats • Horse  
Llamas/Alpacas • Pocket Pets • Poultry • Rabbits • Sheep • Swine • Veterinary Science



## Beef

The 4-H Beef project allows you to learn about breeds, selection, grooming, production, management, showmanship, marketing, and careers through a breeding or market animal.

- **Beginner:** Learn about breeds, feeding, leading, and more.
- **Intermediate:** Build your skills for handling, housing, and cooking beef.
- **Advanced:** Work on beef breeding, reproduction, and animal health.

### Learning opportunities

Take part in [statewide learning and judging events](#). Visit a livestock auction. Job shadow a local beef producer to learn about animal management and health.

## Cats

Cats can be wonderful companions to individuals and families. The 4-H Cat project helps you explore what kind of cat fits your family's lifestyle. Then, you'll learn about nutrition, health needs, and how to be a responsible owner.

- **Beginner:** Learn about proper cat care, grooming, feeding, and planning for their safety.
- **Intermediate:** Learn to train, exercise, and show your cat.
- **Advanced:** Explore cat diseases and treatments, budgeting, record keeping, and careers.

### Learning opportunities

Make a poster or video about cats as service animals. Attend a cat show. Volunteer with the cats at a local animal shelter.

## Cavies

Did you know that a cavy is what we commonly know as a guinea pig? In the 4-H Cavy project, you can learn about selecting and raising your animals.

- **Beginner:** Learn proper cavy care, breeds, equipment, feeding, and showmanship.
- **Intermediate:** Find out how to judge cavies and prepare them for show.
- **Advanced:** Learn about cavy breeding, management, and entrepreneurship.

### Learning opportunities

Design a caviary (where your cavies will live and breed). Train for cavy agility. Look into how to train and use your cavies as therapy animals.

## Dairy

The 4-H Dairy project teaches you about breeds, selection, grooming, production, management, showmanship, marketing, and careers through a dairy animal.

- **Beginner:** Learn about breeds, feeding, and showing your dairy animal.
- **Intermediate:** Explore appropriate handling techniques and how a dairy cow's body works.
- **Advanced:** Raise an animal from calf to cow, learning about balance rations, common diseases, and more.

### Learning opportunities

Take part in [statewide learning and judging events](#). Visit different types of dairy farms. Create a poster of some aspect of animal care that you've learned.

## Dogs

The Dog project will help you explore what kind of dog fits into your family's lifestyle and how to be an excellent trainer and caretaker of your dog. You will learn about dog breeds, dog ownership, and dog care and management, such as feeding, handling, record-keeping, grooming, and fitting.

- **Beginner:** Learn about proper dog breeds, care, grooming, feeding, and training basics.
- **Intermediate:** Plan a training and exercise program for your dog.
- **Advanced:** Explore dog diseases and treatments, budgeting, record keeping, and careers.

### Learning opportunities

Make a poster or video about dogs as service animals. Attend the [statewide dog agility or obedience shows](#). Volunteer with the dogs at a local animal shelter.

## Exotic Animals

In the Exotic Animals project, you will explore what kinds of animals fit your family's lifestyle. Some examples include ostriches, emus, zebras, or zedonks.

- **Beginner:** Learn about types of exotic animals, care, grooming, feeding, and safety.
- **Intermediate:** Plan a training and exercise program for your exotic animal.
- **Advanced:** Learn more about diseases and treatments, budgets, and careers with the animals you raise.

### Learning opportunities

Become pen pals with someone who raises the same exotic animals as you do. Make a poster or video about your animals.



# Agriculture and Animal Science

Beef • Cats • Cavies • Dairy • Dogs • Exotic Animals • Goats • Horse  
Llamas/Alpacas • Pocket Pets • Poultry • Rabbits • Sheep • Swine • Veterinary Science



## Goats

Do you want to be part of the country's fastest-growing livestock and dairy industries? The 4-H Goat project can teach you about selection, management, health, marketing, and careers in the goat industry.

- **Beginner:** Learn about breeds, feeding, and showing your goat.
- **Intermediate:** Build skills in judging, kidding, treating diseases, and more.
- **Advanced:** Deepen your understanding of reproduction, animal welfare, and using records to make herd management decisions.

### Learning opportunities

Tour a goat operation. Make your own dairy goat or goat fiber by-products. Take part in [statewide learning and judging events](#).

## Horse

Love horses? Want to learn more? Whether you have a horse or not, in this project, you can take your love of horses to the next level—the 4-H level.

- **Beginner:** Build essential skills such as safe practices, grooming, and understanding a horse.
- **Intermediate:** Get familiar with equipment, groundwork, and proper riding skills for the arena or trails.
- **Advanced:** Practice horse care, showing, and riding skills while becoming a leader and mentor in the project.

### Learning opportunities

Participate in local horse shows and 4-H horse clinics. Join or start a drill team. Get involved in the [Wisconsin 4-H Horse Association](#). Attend Midwest Horse Fair, shows and clinics, gymkhana, or another [statewide learning event](#). Take part in a Model Horse Show.

## Llamas/Alpacas

Llamas and alpacas can be excellent additions to a family farm and make great pets. This project helps you find the kind of llama or alpaca that fits your family's lifestyle. It will help you learn to be an excellent trainer and caretaker of your animal.

- **Beginner:** Learn about llama and alpaca history, breeds, care, and fibers
- **Intermediate:** Explore llama and alpaca behavior, differences, nutrition, safety, and health
- **Advanced:** Learn about llama and alpaca social behaviors and temperament, body structure, and conditioning

### Learning opportunities

Investigate and make llama and alpaca by-products. Go to a llama show.

## Pocket Pets

The 4-H Pocket Pet project will help you explore what kind of pet fits into your family's lifestyle and how you can be an excellent caretaker. Pocket pets may include cage birds, reptiles, tropical fish, hamsters, gerbils, chinchillas, and more (but don't really put them in your pockets).

- **Beginner:** Gather information and choose the best pet for your family; then learn about proper care, grooming, and feeding.
- **Intermediate:** Plan a pet training and exercise program and get them ready to show.
- **Advanced:** Learn about diseases and treatments for your pet and explore pet-related careers.

### Learning opportunities

Give a demonstration about your pet. Design a toy or home for your pet. Create a first aid kit with what your pet needs to stay safe and healthy.

## Poultry

Explore the poultry industry, including turkeys, chickens, ducks, geese, pheasants, guinea hens, pigeons, or quail. Learn about species and breeds, eggs, feather features, health, feeding, handling, washing, managing a flock, ethics, showing, and careers.

- **Beginner:** Learn about different types and breeds of birds and how they're used.
- **Intermediate:** Explore concepts like imprinting, pecking order, carcass grading, and more.
- **Advanced:** Learn about the skeleton, genetics, flock management, careers, and more.

### Learning opportunities

Tour a poultry farm or hatchery. Order eggs from a hatchery and hatch your own poultry. Build an incubator.

## Rabbits

Whether you see rabbits as soft and cuddly pets or as a business opportunity, the Rabbit project is flexible for your interest. Through hands-on activities, learn about selection, care, breeding, and more.

- **Beginner:** Learn about breed selection, equipment, feeding, health, breeding, and kindling.
- **Intermediate:** Learn to select, judge, show, tattoo, keep records, and detect diseases.
- **Advanced:** Explore breeding, genetics, culling, determining pregnancy, registering a rabbit, and marketing your product.

### Learning opportunities

Design a rabbitry. Attend a rabbit conference or show. Make a poster or video about meat and non-meat uses for rabbits. Contact a local care facility to see if you can visit with your rabbit.



# Agriculture and Animal Science

Beef • Cats • Cavies • Dairy • Dogs • Exotic Animals • Goats • Horse  
Llamas/Alpacas • Pocket Pets • Poultry • Rabbits • Sheep • Swine • Veterinary Science



## Sheep

The Sheep project introduces you to various fun and challenging activities, including identifying the parts of a sheep, selecting a project lamb, preparing for lambing season, identifying lamb meat products, and feeding and showing sheep.

- **Beginner:** Learn about breeds, animal health and care, and how to show a sheep.
- **Intermediate:** Explore judging sheep while you learn about reproduction, nutrition, and more.
- **Advanced:** Learn about developing a breeding program, docking and castration, feed rations, and record-keeping.

### Learning opportunities

Take part in [statewide learning and judging events](#). Visit a sheep farm. Create a poster or video about issues in the sheep industry. Visit a woolen mill to learn how wool is processed.

## Swine

This project helps you learn about swine breeds, health care, production, management, showmanship, marketing, and careers in the swine industry. Learn principles of animal science and gain life skills, like responsibility, by owning, caring for, and keeping records.

- **Beginner:** Learn about breeds, body parts, safety and health, and animal care.
- **Intermediate:** Build your skills for swine management, problem-solving, rations, and cooking pork cuts.
- **Advanced:** Learn about swine genetics, breeding, rations, and piglet management.

### Learning opportunities

Take part in [statewide learning and judging events](#). Visit a local feed mill to see how ingredients are mixed to make a complete ration. Learn to evaluate meat cuts.

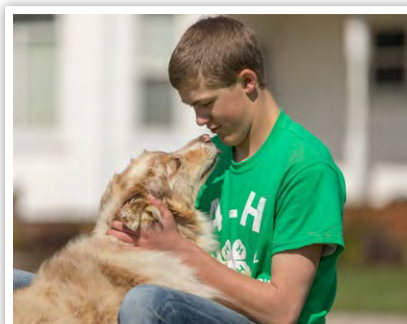
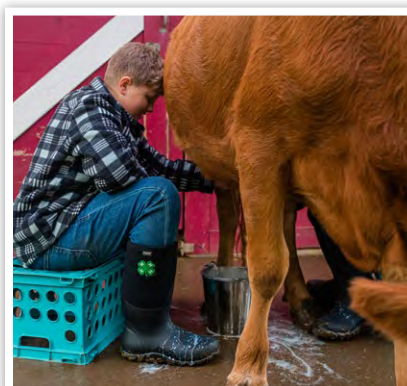
## Veterinary Science

Learn about a veterinarian's role in animal and public health. Project activities will help you learn about veterinary equipment, diseases and health problems, and career opportunities as a veterinarian or volunteer. You do not have to own an animal to be part of this project!

- **Beginner:** Learn about animals' basic needs, life stages, and body systems.
- **Intermediate:** Find out how to recognize and reduce animal stress, how their immune systems work, and how disease and parasites spread.
- **Advanced:** Build skills in animal care, reproductive systems, and disease treatment.

### Learning opportunities

Job shadow a professional animal trainer or veterinarian. Visit the University of Wisconsin Animal Science Department or Veterinary Lab.



# Plant and Soil Science

Crops • Horticulture & Gardening • Indoor Plants  
Landscaping & Design • Plant Crafts • Soil Science



## Crops

In this project, you will learn about different crops grown locally, regionally, and nationally to feed our world. The focus is on crop growth, diseases, and pests impacting agriculture production.

- **Beginner:** Explore common plants, plant anatomy, growing conditions, and crop by-products.
- **Intermediate:** Learn about germination, environmental influences, common diseases and pests, and soil nutrients.
- **Advanced:** Learn about degree-days, cross-pollination, genetic hybrids, and multi-crop management.

### Learning opportunities

List the different types of crops grown in your community. Start a small plot of a crop like corn and monitor its growth through the season. Experiment with how nutrients impact plant growth and vitality.

## Horticulture & Gardening

Growing food, flowers, fruit, and herbs is gardening. Horticulture, the science of growing, helps us understand what we produce, how and where to grow it, and more. Youth in this project may choose to grow plants to eat, look at, or both.

- **Beginner:** Learn about plant types, seed types, germination, and propagation.
- **Intermediate:** Investigate nutrients needed for plant growth, including making your own composted soil.
- **Advanced:** Learn about food preservation techniques, return on investment, and soil regeneration.

### Learning opportunities

Start an herb garden indoors or outdoors. Create a weekly menu using

the produce that is in season. Visit an arboretum or garden center to explore local and exotic plants and their uses.

## Indoor Plants

Indoor plants add beauty and design to any space. Learn about indoor plant varieties and propagation suitable for your home environment. Youth may explore flowering and non-flowering plants.

- **Beginner:** Find out about indoor gardening practices and care.
- **Intermediate:** Investigate soil types for indoor plants and start plants from seeds or cuttings.
- **Advanced:** Track the life cycle of plants, how they use nutrients, and plant propagation.

### Learning opportunities

Identify the plants in your home that start best from seed vs. cuttings. Interview the owner or manager of a garden center. Experiment with different mediums for growing plants.

## Landscaping & Design

Plants can produce food for your family and add beauty to the earth's landscape or your bedroom. Discover landscaping plants and design fundamentals to create a functional and beautiful environment year-round.

- **Beginner:** Explore color, lines, and textures in landscape plantings throughout the year.
- **Intermediate:** Investigate design techniques, patterns, and plant propagation.
- **Advanced:** Design your own landscape and plant patterns for a school or home garden.

### Learning opportunities

Visit a local garden center to see what landscaping plants are available. Interview a local Master Gardener. Try using computer software to create a landscape design.

## Plant Crafts

Bouquets, corsages, and centerpieces. Cut flowers, dried flowers, or other plants. Plant crafts such as flower arranging, pressed flowers, evergreen arrangements, and more can add beauty to a room, an event, or someone's day. Youth in this project will explore ways to be creative with plants.

- **Beginner:** Learn about plant types, flower structures, and how to collect plant material for crafts.
- **Intermediate:** Practice flower arrangements and experiment with different flower types, textures, and shapes.
- **Advanced:** Explore native and exotic flower types and creative arrangements.

### Learning opportunities

Visit a local florist to learn more about flower arrangements. Experiment with which fresh-cut flowers last the longest. Research different ways to preserve flowers.

## Soil Science

Soil is more than just "dirt." Soil is alive with plants and animal life. In this project, grow your understanding of soil types, what plants need, and how seeds grow into plants. Then, explore how to support the soil by keeping it healthy and preventing erosion.

- **Beginner:** Collect soil samples to understand what is living in and on the soil surface.
- **Intermediate:** Learn about soil health and soil nutrients cycle through the environment.
- **Advanced:** Explore how soil, water, air, and plants impact each other and work together.

### Learning opportunities

Create a poster about everything you find in three different soil samples. Measure the soil's health over time when you make changes to it. Create a terrarium to demonstrate how soil, water, air, and plants work together.



# Environmental/Outdoor Education



Astronomy • Birds • Conservation • Entomology (Insects) • Geology • Maple Syrup  
Outdoor Recreation • Safety • Shooting Sports • Taxidermy • Wildflowers • Wildlife & Habitat

## Astronomy

The sky's the limit! The Astronomy project is your chance to explore stars, planets, comets, and more as you learn how we view and study the universe.

- **Beginner:** Learn about stars, planets, the moon, and light from the sun.
- **Intermediate:** Research telescopes and build a simple telescope.
- **Advanced:** Build a spectroscope to explore the light spectrum and lead a public viewing.

### Learning opportunities

Take a field trip to an observatory. Plan a star or space watch party. Teach someone about constellations.

## Birds

Become a careful observer of wild birds in your area and around the state. Find out about their habitats, migratory patterns, what they eat, and more.

- **Beginner:** Find at least 20 different birds near where you live.
- **Intermediate:** Match birds in your area with the food they like and the nests they build.
- **Advanced:** Learn about the migration habits of birds and use what you learn to attract birds to your area.

### Learning opportunities

Visit a bird sanctuary.  
Build a bird feeder or birdhouse. Try out bird photography.

## Conservation

The Conservation project includes weather and climate, water science, recycling, exploring your environment, and more. Get involved to learn about the natural world and how to help protect it!

- **Beginner:** Experiment with water, air, energy, and soils to understand their importance to the Earth.
- **Intermediate:** Identify current environmental problems and explore possible solutions.
- **Advanced:** Research and solve a local environmental problem.

### Learning opportunities

Plan or help with a recycling event. Use renewable energy to power an electronic device. Start trees from seed and sell or plant the seedlings.

## Entomology (Insects)

Insects (including bees) are everywhere! Learn about different types of insects, the largest group of animals on earth, and why they are essential in our natural world. This project is your chance to collect, study, and display insects you find and learn about forensic entomology.

- **Beginner:** Explore the wide world of insects and how to collect them.
- **Intermediate:** Make your own insect collection tools and learn about forensic entomology.
- **Advanced:** Research and monitor insects as you deepen your knowledge.

### Learning opportunities

Plant a butterfly garden. Start an insect collection. Study the insects that are attracted to a roadkill animal. Visit a local beekeeper.



## Geology

Have you ever found a rock or fossil at a park and wanted to know what it was? Discover the types of minerals, rocks, and fossils found in Wisconsin. Dig into the Geology project!

- **Beginner:** Learn about and collect rocks and fossils.
- **Intermediate:** Identify, collect, and display stones and fossils.
- **Advanced:** Explore new areas to collect and work with rocks and fossils safely.

### Learning opportunities

Find and explore a Wisconsin site known for rockhounding. Research the Wisconsin state gemstone. Visit a lapidary (rock) shop or the Geological Museum in Madison.

## Maple Syrup

In the Maple Syrup project, youth will learn about the tools, trees, and techniques, all while learning to care for the environment.

- **Beginner:** Learn how to tap a tree and when.
- **Intermediate:** Help with boil down and caring for your maple trees.
- **Advanced:** Level up your maple syrup collection and entrepreneurship.



### Learning Opportunities

Visit a commercial syrup operation. Research the best trees for syrup production. Experiment with recipes that use maple syrup.

# Environmental/Outdoor Education



Astronomy • Birds • Conservation • Entomology (Insects) • Geology • Maple Syrup  
Outdoor Recreation • Safety • Shooting Sports • Taxidermy • Wildflowers • Wildlife & Habitat

## Outdoor Recreation

Let's get active outdoors! This project is for anyone who likes outdoor adventures, including backpacking, hiking, bicycling, camping, canoeing, fishing, rock climbing, winter travel, cross-country skiing, and downhill skiing. The sky is the limit, and adventures are waiting for you!

- **Beginner:** Learn about equipment, basic skills, and how to "leave no trace."
- **Intermediate:** Plan for a short adventure and practice outdoor skills and safety.
- **Advanced:** Plan a bigger trip and share what you have learned with others.

### Learning opportunities

Help with a 4-H camp. Teach someone else about your favorite outdoor adventure. Plan a hike or bike outing for your 4-H club.

## Safety

Safety is essential when anyone uses motorized equipment! In this project, learn about water, fire, electricity, winter, tractor, recreational vehicle safety, and more.

- Choose a safety topic or area to learn about.
- Research and explore ways to stay safe in that topic/area.
- Create a tip sheet, guide, or kit to share what you learned.
- Teach others about how to be safe.

### Learning opportunities

Repeat this learning process with new safety topics.

## Shooting Sports

Discover the fun and challenge of learning to shoot archery, air rifle, air pistol, shotgun, muzzleloader, .22, or rifle. The objective is to teach kids safety, responsibility, discipline, and good sportsmanship.

- **Beginner:** Learn basic shooting skills and safety.
- **Intermediate:** Select proper ammunition and practice with different shooting positions.
- **Advanced:** Learn proper range setup and scoring while improving skills.

### Learning opportunities

Attend a shooting sports meeting. Take part in a fun or [competitive shoot](#). Join the [Wisconsin National 4-H Shooting Sports Team](#). Coach younger members. Take a hunter safety course.

## Taxidermy

The Taxidermy project combines an understanding of wildlife and habitat with art and creativity. Learn to mount animals, create a habitat for the mount, and display your work so it still looks alive.

- **Beginner:** Learn about the tools and steps needed to mount an animal.
- **Intermediate:** Practice mounting an animal.
- **Advanced:** Build your taxidermy skills and create a habitat to mount the animal.

### Learning opportunities

Experiment with different media for the habitat. Visit a museum that features taxidermied animals. Interview a taxidermist.

## Wildflowers

Unlike flowers you might plant and grow, wildflowers grow wherever they find the right conditions. In Wisconsin, there might be prairie, woodland, and wetland flowers. Learn about what flowers grow where and why.

- **Beginner:** Identify and take pictures of wildflowers and where they are growing.
- **Intermediate:** Observe the changes in wildflowers from new growth to the end of the season.
- **Advanced:** Learn to store, save, cultivate, and support habitats for wildflowers.

### Learning opportunities

Start a prairie garden. Create a wildflower photo collection. Draw a phenology wheel for your yard or another chosen spot.

## Wildlife & Habitat

In this project area, you will learn about the different types of wildlife groups, their habitat needs, conservation, and interactions between humans and wildlife.

- **Beginner:** Learn about and watch wildlife in their natural habitat.
- **Intermediate:** Explore wildlife adaptations and how to help rehabilitate injured animals.
- **Advanced:** Investigate how the environment impacts wildlife and how we interact with wildlife and their habitats.

### Learning opportunities

Take part in [Wildlife & Woods virtual classes](#). Compete in [statewide art, wildlife, and forestry contests](#). Visit a nature center. Learn about wildlife-focused careers.



# Science, Technology, Engineering, and Math

Aerospace • Coding & Computer Science • Energy & Electricity • GPS & Mapping • LEGO®  
Mechanical Sciences • Model Building • Robotics • Welding • Woodworking



## Aerospace

Explore the science of flight! Flying objects from kites to rockets have been studied for centuries. In this project, you will discover the science behind moving objects through the air.

- **Beginner:** Build a marshmallow rocket and learn the basics of balance and propulsion.
- **Intermediate:** Make a paper hot-air balloon to learn about environmental conditions and their impact on flight.
- **Advanced:** Explore model rocketry, build a hang glider, and calculate flight parameters like payload, weight, and spin.

### Learning opportunities

Visit a space or aeronautical museum. Research the history of flight for travel, military defense, and space exploration. Attend [Space Camp](#) or [Advanced Space Academy](#).

## Coding & Computer Science

Our world is based on technology. Explore machine learning, computer coding, and applications using software tools. Investigate hardware, software, networks, and data management.

- **Beginner:** Learn the fundamental principles of computer programming, hardware, and software.
- **Intermediate:** Explore topics such as programming clones, variables, and networks.
- **Advanced:** Engage with the fundamentals of artificial intelligence, recursions, and script.

### Learning opportunities

Try Scratch programming and Code.org (free online with self-paced

tutorials and projects). Take apart an old, unused computer to learn about the parts. Build a computer from parts.

## Energy & Electricity

The Energy & Electricity project offers opportunities for hands-on exploration of how energy is transferred and transformed. Build simple to complex electric circuits to understand how we harness energy safely and efficiently.

- **Beginner:** Learn about safety while exploring simple circuits in a flashlight or a simple motor.
- **Intermediate:** Understand voltage, current, and resistance in circuits by testing different types of circuits.
- **Advanced:** Learn to solder, create working circuits, and explore renewable energy sources.

### Learning opportunities

Visit your local energy company or cooperative to learn more about solar and wind energy. Build a small solar station to power a device. Create a poster showing how you would wire a room in your house.

## GPS & Mapping

Youth discover the world of orienteering using maps and global positioning system (GPS) technology to explore the world around them or plan an adventure.

- **Beginner:** Learn how road and terrain, points of interest, travel times, and cardinal directions are shown.
- **Intermediate:** Learn the fundamentals of GPS technology and digital mapping.
- **Advanced:** Use a combination of GIS and GPS to collect data and build multi-layer maps.

### Learning opportunities

Investigate how GPS and mapping are used in precision agriculture. Explore the hobby of geocaching. Interview local organizations or agencies (police, DNR, school bus garage, etc.) that use GPS or mapping in their work.

## LEGO®

Youth use LEGO® bricks to build simple and complex structures with creativity and imagination. Youth can build structures and landscapes using various bricks to practice engineering, design, and construction skills.

- **Beginner:** Use LEGO® or Duplo® bricks to design and build a simple structure.
- **Intermediate:** Modify designs to add creativity or improve a structure or model.
- **Advanced:** Design, create, and share creative designs to meet a need of your community, school, or family.

### Learning opportunities

Add coding and design to your experience with LEGO® robotics. Try to attend a LEGO® event by searching "LEGO event Wisconsin."



# Science, Technology, Engineering, and Math



Aerospace • Coding & Computer Science • Energy & Electricity • GPS & Mapping • LEGO®  
Mechanical Sciences • Model Building • Robotics • Welding • Woodworking

## Mechanical Sciences

Youth will learn about manual and fuel-powered machines, tools, safety, and maintenance. They will get hands-on experiences that will help them understand how machines, such as lawn mowers, ATVs, and model airplanes, operate and how to keep them running.

- **Beginner:** Explore a manual machine, like a bicycle, to identify mechanical components.
- **Intermediate:** Demonstrate learning by safely taking apart and repairing a simple machine.
- **Advanced:** Repair or create a complex machine to perform a task.

### Learning opportunities

Interview an auto mechanic or a small engine repair shop owner. Identify the essential tools you'll need and assemble a toolkit. Start your own small engine repair business.

## Model Building

In the Model Building project, youth will explore designing items in a three-dimensional space using architecture and engineering principles. Youth can express their creativity by creating small-scale models like planes, cars, trains, and more!

- **Beginner:** Learn the basics of model building, such as scale and function.
- **Intermediate:** Develop scale models with functionality and describe the mechanics of the model's function.
- **Advanced:** Create scale models to showcase the intersection between design and function.

### Learning opportunities

Build a model from a kit. Learn about and practice techniques for building a model without a kit.

Explore how small-scale models are used in manufacturing, architecture, engineering, and more.

## Robotics

Through hands-on activities, youth will learn the basics of robotic systems, structures, sensors, control, and programming.

- **Beginner:** Learn to identify the components of a robot and practice basic coding skills.
- **Intermediate:** Explore the use of sensors and other input/output controls.
- **Advanced:** Learn advanced programming strategies to complete multiple tasks.

### Learning opportunities

Check out a LEGO® Robotics event in the state. Explore coding with free video tutorials and challenges from [Khan Academy](#) (click "I'm a Learner" and search for "coding").

## Welding

Youth will explore several techniques for joining metal safely and efficiently. Learn how to repair a metal item or create amazing art with this useful skill.

- **Beginner:** Learn about equipment, safety, and basic techniques for joining metals.
- **Intermediate:** Continue practicing welding skills while learning to cut, join, and test metal welds.
- **Advanced:** Create or repair a project using the correct materials and several welding techniques.

### Learning opportunities

Create a display to show the different welding techniques. Talk to local businesses about career opportunities in welding. Help a local nonprofit organization with any welding or repair needs.



## Woodworking

Youth enrolled in the Woodworking project will explore basic wood types and woodworking techniques. Topics include accurate measurements, the use of basic hand tools and power tools, and creating joints.

- **Beginner:** Learn to measure, square, and cut wood while safely using basic hand tools.
- **Intermediate:** Begin to safely use power tools while learning to join boards with different techniques.
- **Advanced:** Plan a wood construction project and understand the associated costs.

### Learning opportunities

Build birdhouses to donate to a local prairie project or community garden. Explore how you can use your woodworking skills in an upcycling project. Plan and lead a woodworking workshop for younger members.




# Project Listings at a Glance

Find the project areas within each of the seven project groupings on these pages. Examples help youth and families think about what types of project-based learning they might participate in when they sign up for the project area. Learning experiences are not limited to what's listed here. Some counties may suggest what county fair departments the project areas align with.

**Project areas are current as of October 2025.**



 <b>Expressive Arts</b>	
<b>Project area</b>	<b>Examples of project-based learning within project area</b>
<b>Art Appreciation</b>	Celebrating art, art in your future
<b>Computer Graphic Design</b>	
<b>Creative Writing</b>	
<b>Fiber &amp; Textile Arts</b>	Macrame, rug hooking, tie dyeing, wearable art, creative/cross stitchery, needlepoint, weaving, string/wire art, handmade dolls, knitting, crocheting, wool spinning, weaving
<b>Folk Arts &amp; Crafts</b>	Basketry, beadwork, calligraphy, candle making, decorative boxes, decoupage, fuzzy posters, liquid embroidery, rock art, soap making, soap carving, wood art, wood burning, leathercraft, blacksmithing
<b>Performing Arts</b>	Clowning, dance, juggling, music, theater arts, puppetry
<b>Photography</b>	
<b>Self-Determined—Expressive Arts</b>	
<b>Upcycling</b>	Trash and Treasure
<b>Videography</b>	
<b>Visual Arts</b>	Block printing, ceramics, collages, drawing and painting, glasswork, jewelry making, metal enameling, mosaics, ornaments, paper art, plastercraft, posters, print making, pottery, rubber stamping, scrapbooking, Sculpey clay, stencil painting



## Leadership and Community

Project area	Examples of project-based learning within project area
Civic Engagement	Citizenship
Cloverbud	
Cloverbud Youth Leader	
Communications	Demonstrations, sign language, speaking, Books on the Move
Community Service	Service learning
Exploring	
Global & Cultural Education	Latino cultural arts, international
History & Heritage	
Intergenerational	
Leadership	Youth leadership
Self-Determined— Leadership & Community	
Workforce Readiness	



## Family, Home, and Health

Project area	Examples of project-based learning within project area
Candy Making	
Child Development	
Consumer Savvy	
Entrepreneurship	
Food Decorating	Cake decorating
Food Preservation	
Foods & Nutrition	Microwave, cooking, baking, breads
Health	
Home Environment	Decorative wreaths, interior design
Personal Finance	
Self-Determined— Family, Home, & Health	
Sewing	Clothing, quilting, regalia making, stuffed animals
Sports & Fitness	Softball, bowling, fun and fitness





## Agriculture and Animal Science

Project area	Examples of project-based learning within project area
<b>Beef</b>	Beef feeder, beef meat animal products (map)
<b>Cats</b>	
<b>Cavies</b>	
<b>Dairy</b>	
<b>Dogs</b>	Dog obedience
<b>Exotic Animals</b>	Ostrich, emu, zebras, zedonk
<b>Goats</b>	Meat goat, dairy goat, pygmy goat
<b>Horse</b>	Horseless horse
<b>Llamas/Alpacas</b>	
<b>Pocket Pets</b>	Cage birds, reptiles, tropical fish, hamsters, gerbils, chinchilla
<b>Poultry</b>	Poultry bantams, poultry game birds (quail, pheasant), poultry market, poultry pigeons, poultry turkeys, poultry waterfowl
<b>Rabbits</b>	Rabbit hopping, rabbits market
<b>Self-Determined— Animal Sciences</b>	
<b>Sheep</b>	Sheep meat animal products (map)
<b>Swine</b>	Swine meat animal products (map)
<b>Veterinary Science</b>	



## Plant and Soil Science

Project area	Examples of project-based learning within project area
<b>Crops</b>	Corn, soybeans, small grains (wheat, oats, barley, and rye)
<b>Horticulture &amp; Gardening</b>	Herbs, vegetables, fruits, flowers, hydro/aquaponics
<b>Indoor Plants</b>	House plants
<b>Landscaping &amp; Design</b>	Home grounds
<b>Plant Crafts</b>	Flower arranging, flower crafts
<b>Self-Determined— Plant &amp; Soil Sciences</b>	
<b>Soil Science</b>	



## Environmental/Outdoor Education

Project area	Examples of project-based learning within project area
<b>Astronomy</b>	Weather and climate, exploring your environment, water science, aquatic science, water, recycling
<b>Birds</b>	
<b>Conservation</b>	
<b>Entomology (Insects)</b>	Bees
<b>Geology</b>	Rockhound
<b>Maple Syrup</b>	
<b>Outdoor Recreation</b>	Adventures, backpacking and hiking, bicycling, camping, canoeing, fishing, rock climbing, winter travel, cross country skiing, downhill skiing
<b>Safety</b>	Off-highway vehicles, tractor certification, snowmobiling
<b>Self-Determined—Environmental/Outdoor Education</b>	
<b>Shooting Sports—Air Pistol</b>	
<b>Shooting Sports—Air Rifle</b>	
<b>Shooting Sports—Archery</b>	
<b>Shooting Sports—Gun Safety</b>	
<b>Shooting Sports—Muzzleloading</b>	
<b>Shooting Sports—Pistol</b>	
<b>Shooting Sports—Rifle</b>	
<b>Shooting Sports—Shotgun</b>	
<b>Taxidermy</b>	
<b>Wildflowers</b>	
<b>Wildlife &amp; Habitat</b>	Wildlife, hunting, forestry



## Science, Technology, Engineering, and Math (STEM)

Project area	Examples of project-based learning within project area
<b>Aerospace</b>	Model rocketry, flying
<b>Coding &amp; Computer Science</b>	Computers
<b>Energy &amp; Electricity</b>	Wind energy, home energy, electricity, solar power
<b>GPS &amp; Mapping</b>	Geocaching, geospatial
<b>LEGO®</b>	
<b>Mechanical Sciences</b>	Automotive, tractors, small engines, maintenance and repair
<b>Model Building</b>	Model cars, model railroad, remote controlled cars, scale model, model rocketry, radio-controlled plane
<b>Robotics</b>	
<b>Self-Determined—STEM</b>	
<b>Welding</b>	
<b>Woodworking</b>	



# Sparks Pathway Planning



I want to explore the \_\_\_\_\_ project.

## Things I want to learn about in the project:

1

\_\_\_\_\_

2

\_\_\_\_\_

3

\_\_\_\_\_

4

\_\_\_\_\_

5

\_\_\_\_\_

## People I can talk to or places where I can learn more about the project:

1

\_\_\_\_\_

2

\_\_\_\_\_

3

\_\_\_\_\_

4

\_\_\_\_\_

5

\_\_\_\_\_

**My notes:**







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