SOUTH DAKOTA

4-H Project Selection GUIDE

YD4H502-04

South Dakota State University
College of Agriculture and Biological Sciences
Cooperative Extension Service

SDSU

WELCOME

to South Dakota 4-H!

4-H is young people...

- having fun
- learning about their favorite things
- exploring new ideas and topics
- preparing to be future leaders
- caring about their communities

4-H is...

a community of young people who are learning leadership, citizenship, and life skills.

4-H Membership

There are many ways to become a 4-H member. Your county Extension educator can help you select which membership option is best for you. The options are described below.

4-H community club: youth enroll in a club and participate in group activities and meetings. An adult volunteer / parent volunteer leads the club and helps to organize and support the group. The club elects its own officers and plans its programs, meetings, community service and learning activities together. Age requirement: Ages 8 to 18 by January 1 of the program year.

4-H Afterschool: youth who attend afterschool and out-of-school time programs may join 4-H Afterschool. These groups may meet during the school year, during the summer, or year-round. The group has member leaders who help with the program for the day. The group helps to plan its own programs, community service, and learning activities. Age guidelines: Ages 5 to 18 by January 1 of the program year.

4-H special interest or project groups: these groups are usually formed around a single interest, such as a rocketry club, horse club, or computer club. Volunteer leaders with the same special interest or expertise serve as project leaders and support the group. The group may elect officers and plan their own activities, meetings, and community service and learning activities together. Age requirement: Ages 8 to 18 by January 1 of the program year.

4-H school enrichment: these groups meet during school time and use curricula provided by 4-H as the basis for their learning. The groups are coordinated by a partnership between 4-H/ Extension and school personnel. Most groups meet during the school day for all or part of the school year. Age guidelines:
youth in grades K-12.

4-H Cloverbuds: this program is designed to introduce 5–7 year-olds to a variety of 4-H experiences. Some Cloverbuds operate as a separate 4-H club and some are affiliated with another 4-H community club or 4-H Afterschool.

4-H Pledge

I pledge:
My HEAD to clearer thinking,
My HEART to greater loyalty,
My HANDS to larger service, and
My HEALTH to better living.
For my club, my community,
my country and my world.

4-H Motto

To make the best better.

Project Selection Guide

Now that you have joined 4-H, what would you like to do?

There are more than 50 different project areas in South Dakota 4-H.

And if you don't see what you are interested in, you may also design your own project(s).

When you are selecting projects, think about these things...

- Something new that you would like to explore.
- A hobby that you would like to learn more about.
- Something that is fun for you.
- A topic in which you can involve your parents, relatives, friends, and other 4-H members.

This project selection guide is designed to help 4-H members select projects of interest. You may choose as many project areas as you wish; however, you are encouraged to select only the number of projects that you can manage successfully over the course of a year.

Project Categories

- Citizenship and Civic Education
- Personal Development
- Leadership
- Expressive Arts
- Communication Arts
- Family & Consumer Sciences
- Healthy Lifestyles
- Shooting Sports
- Technology and Engineering
- Earth Sciences & the Environment
- Biological Sciences
- Plants
- Large Animals
- Small Animals
- Exploring 4-H
- Cloverbuds

• This Guide Contains • • • • • • •

1. A brief description of each 4-H project.

2. Examples of things that you can do in the project. These are NOT complete lists but rather a few suggestions to get started. 4-H members, parents, and leaders are encouraged to think of many different ways to learn about the topic or project. Be creative!

3. Resources are listed to provide information about the project and ideas for hands-on learning activities. Most resources are available through local county Extension offices, the CES Department of Family and Youth/4-H (SDSU) or the National 4-H Cooperative Curriculum System (CCS), www.n4hccs.org. Also check the South Dakota 4-H website for project information: http://4h.sdstate.edu

The Projects

CITIZENSHIP AND CIVIC EDUCATION

• Citizenship

What does it mean to be a citizen? Learn about the rights and responsibilities of belonging to a family, community, state, nation, and the world. Explore how democracy works and how to participate in the democratic process to bring about change.

What you can do in this project

- Attend a public meeting, such as city council, county commission, or Extension board meeting.
- Become informed about a local issue. Collect news articles and opinions about the issue.
- Make a poster encouraging people to register and to vote.

Resources

- Public Adventures: Citizen Adventure Kit (CCS).
- Public Adventures: Citizen Guide's Handbook (CCS).

• Cultural Education, International Study & Exchange Programs

Discover how understanding individual and cultural differences leads to greater respect for other people and a greater appreciation of one's own heritage.

What you can do in this project

- Make a family tree to learn about your own heritage.
- Find out what people wear, what they eat, and what games they play in other cultures or countries.
- Go on an exchange trip to another state.
- Host an international student.

Resources

- Get Real! Get Active! (CCS).
- We Are All Relatives (SDSU Character Counts!).
- And My World, Units 1, 2 (CO678 and CO679, SDSU).

• Community Service & Service Learning•

Discover your community and find ways to become involved in activities to help make it a better place to live.

What you can do in this project

- Learn about organizations in your community.
- Organize a community improvement project, such as planting flowers and trees.
- Be a helper at a community event, such as the Special Olympics or a fundraiser for charity.
- Collect food, clothing and/or furniture for families who have experienced a fire, flood, or other emergency.

Resources

- Service Learning (CCS - available in 2005).

PERSONAL DEVELOPMENT

• Career Exploration & Workforce Preparation

What's in your future? Explore the job and career opportunities and learn about the value of education and job preparation. Identify your personal interests, skills, and abilities through learning about the world of work, education, and job training.

What you can do in this project

- Make a list of jobs or careers that interest you.
- Learn what skills and experiences are needed for a particular job.
- Interview people whose career interests you. Tour their work site.
- Job shadow or intern.

Resources

- Wild Over Work (CCS).

• Economics, Business & Marketing

Big or small — businesses create jobs and provide products and services. Learn how competition, supply and demand, and finance are important concepts in business, and how personal, social, and ethical decisions are also important.

What you can do in this project

- Study currency and foreign trade.
- Describe a monopoly.
- Select a commodity or stock and graph the pricing over a period of time, e.g., two months.
- Examine businesses in your community. Determine which products or services are not available.

Resources

- Entrepreneurship, Be the E (CCS).
- Entrepreneurship Helper's Guide (CCS).
- Character Counts!
- Financial Champions, Levels 1, 2 (CCS).
- Financial Champions Helper's Guide (CCS).

• Entrepreneurship

Be an entrepreneur! Learn to start a business and develop a complete business plan. Develop a way to market your ideas.

What you can do in this project

- Interview an entrepreneur or small business owner in your community.
- Take a tour of a local business.
- Learn about different types of businesses.
- Learn the meaning of line of credit, cash flow, investment, and public offering.
- Work with a group to create a product and develop a business plan to sell it.

Resources

- Entrepreneurship, Be the E (CCS).
- Entrepreneurship Helper's Guide (CCS).
- Mini-Society.

• Hobbies & Collections

How do you spend your spare time? Do you have a hobby or collection? Share your special interest with others by exhibiting your collection or examples of things you have created.

What you can do in this project

- Pick a hobby or start a collection that interests you.
- Learn about ways to store, display, and preserve your collection.
- Organize a hobby show for clubs in your area.
- Plan how you will organize your collection and make an inventory of it.
- Learn to assess the value of your collection as an investment for the future.
- Teach a friend or club member how to participate in your hobby.

Resources

- 4-H Hobbies & Collections 4H 001 (SDSU).

• Leisure Education & Recreation

Leisure is the freedom to choose what you want to do. Leisure education teaches you the value of leisure time and how to use it to the fullest. Enhance your leadership skills by leading or demonstrating a type of recreation in a group setting.

What you can do in this project

- Develop one new leisure time interest.
- Plan a hike including proper equipment, food, and water.
- Make a list of activities suitable for a specific age group, such as 9- to 11-year-olds.
- Plan a family vacation with a specific theme.
- Design a game or puzzle that can be played by two or more people.

Resources

- Outdoor Adventure, Levels 1, 2, 3 (CCS).
- Outdoor Adventures Helper's Guide (CCS).

• Character Education

CHARACTER COUNTS! is part of the 4-H program in South Dakota. Through CC! you learn about the six pillars of character: trustworthiness, respect, responsibility, fairness, caring, and citizenship as building blocks to good character in all people. Resources found in the CC! regional libraries will give you ideas on practicing and teaching good character.

What you can do in this project

- Focus on one pillar and develop a poster or display showing how you can act it out in your life.
- Trustworthiness: interview a few business owners and find out about the effects of shoplifting on their businesses.
- Respect: create a poster showing good sportsmanship ideas.
- Responsibility: take photos of people doing their duties in their jobs. Display photos on a poster.
- Caring: organize a group of your friends to visit the people in an elder care center.
- Fairness: Play a game with younger children and then change the rules. See what happens. Have them help you create a poster telling what the rules should be and why it is important to follow the correct rules.
- Citizenship: Create an issue or question that people coming to your fair can vote on. (Example: our school should have a 4-day school week or a 5-day school week) Provide ballots, pencils, and ballot box. Count the votes on the last day of the fair and announce the results.

Resources

- We Are All Relatives (SDSU Character Counts! Curriculum).
- CC! Good Ideas Book.
- Exercising Character (Louisiana).
- South Dakota CC! website: http://4h.sdstate.edu/character.

• Self-Determined

Are you interested in Genealogy, Meteorology, Oceanography, Marine Biology, the Rain Forests, or Waste Management?
Design your own project. This could be a new project, expansion of a traditional project, or going in depth with a chosen area. Develop a project complete with goals, procedures, and results or product.

What you can do in this project

- Select a project or activity you would enjoy.
- Identify resources needed to plan and carry out a project.
- Photograph your project or write a story about your project.
- Make a display about your project.

Resources

- 4-H 189 Reference Guide (SDSU).
- 4-H 190 Member/Leader Guide (SDSU).

LEADERSHIP

• Leadership

Develop your leadership potential through understanding yourself. Improve your communication and decision-making skills. Learn about managing and working in groups. Leadership focuses both on personal development and being of service to others.

What you can do in this project

- Join your local 4-H Junior Leaders group.
- Participate in leadership conferences or camps, e.g., 4-H at the Capitol Day in Pierre.
- Apply to the state 4-H Council/Ambassadors group.
- Become a member of a committee or board in your community, e.g., 4-H horse committee, library committee on new book selection, or church youth education planning committee. This is called Youth and Adult Partnerships.
- Learn to deal with conflict and develop skills to resolve conflict.
- Learn how to work effectively as a member of a team.
- Plan and carry out a productive meeting.
- Think through how to make decisions.

Resources

- My Leadership Workbook (CCS).
- My Leadership Journal (CCS).
- My Leadership Portfolio (CCS).
- Leadership Mentor Guides 1, 2 (CCS).

EXPRESSIVE ARTS

• Drama & Theater Arts

Experience how to create form and meaning with voice, gestures, and body movement. Explore role-playing, mime, staged presentations, and rhythmic and harmonized body movement of spontaneous or controlled nature, both individually and in a group.

What you can do in this project

- Learn about different types of performances - plays, recitals, concerts, musicals.
- Make puppets and give a puppet show.
- Try improvisation.
- Learn about clowning.
- Write a play or skit and perform it for an audience, such as a preschool or elder care home.
- Learn how people use body language to communicate.

Resources

- Theatre Arts, Levels 1, 2, 3, 4 (CCS).
- Theatre Arts Helper's Guide (CCS).

• Music & Dance

Create form and meaning through rhythm, meter, and harmonics with voice and instruments. Discover how music develops physical skills, mental abilities, creative capacities, and social skills. Participate by listening, performing, composing, teaching, or making musical instruments, either individually or in a group.

What you can do in this project

- Participate in Performing Arts Camp.
- Write your own music.
- Learn to play an instrument.
- Learn about the history of dance.
- Choreograph a dance.
- Make a poster identifying different types of musical instruments.

Resources

- Refer to SD 4-H website http://4h.sdstate.edu.

COMMUNICATION ARTS

• Visual Arts

Explore art and design experiences. Learn to apply the elements and principles of art to various media, such as pencil, clay, fiber, glass, leather, metal, paper, plastic, textiles, and wood. Older youths can enhance their experience by further developing their skills, by providing leadership to younger members, or by making connections to careers in the arts.

What you can do in this project

- Learn about the elements and art principles of design.
- Create 2-dimensional and 3-dimensional art work.
- Experiment with different media such as clay, paper, wood, etc..
- Learn about connecting art to careers, such as communication, technology, culture, science, and exhibition.
- Study an artist and his/her style or technique. Experiment with that technique or style.

Resources

- A Palette of Fun with Arts and Crafts for K-6 (CCS).
- Advanced Visual Arts (CCS - available 2005).

• Graphic Design

Graphic Design is a creative process that utilizes art and computer technology to communicate ideas. It begins with a message that is transformed into visual communication and transcends words. Learn how the graphic designer uses color, type, symbols, and photography to create and manage the production of images designed to inform and persuade a specific audience.

What you can do in this project

- Make eye-catching educational posters and displays.
- Explore new materials that can be used for special effects on posters and in printed materials.
- Do a study of color, lettering styles, and/or format spacing.
- Create a brochure or poster to advertise a school or 4-H event.
- Give a talk on how to achieve a special effect seen on many print pieces today.
- Create a design for a postage stamp, magazine cover, logo, business card, or shopping bag.

Resources

- Computer software, such as Free Hand, Illustrator, Corel Draw, Photo Shop, and Painter.
- Before & After, ISBN 020179537X.
- Designing Websites for Everyone, ISBN 158180301X.

• Photography & Video

Photography is part art, part science, and part communication. Learn to capture events, ideas, and situations as a record for others to enjoy or study.

What you can do in this project

- Learn how to pick a good subject.
- Learn about different types of cameras and video equipment.
- Explore artistic principles in the composition of still and moving photography.
- Learn about different kinds of film.
- Try different kinds of special effects.
- Learn to shoot photos that tell stories and illustrate ideas.

Resources

- Adventures with Your Camera, Books A, B (National 4-H Photography Curriculum).
- 4-H Photography, Leader's Guide.

• Writing & Public Speaking

Speaking, writing, media, poetry, and prose communication inform, persuade, entertain, and provide conversation. Learn to select the type of communication that best conveys a message. Discover effective ways to deliver ideas.

What you can do in this project

- Learn about organizing information to be presented.
- Prepare and give a speech or an illustrated talk.
- Develop a pleasing personal appearance and manner before an audience.
- Learn about career, job, and leisure opportunities in the communications field.
- Put together a Power Point presentation.

Resources

- Communication (CCS - available 2005).

FAMILY & CONSUMER SCIENCES

• Child Development & Family Life

Growing up and growing older. Learn principles of how a human grows and develops as an individual and as a member of a family or community. Investigate self-care, family relationships, intergenerational relationships, and differences in individuals and cultures.

What you can do in this project

- Select toys, games, or puzzles appropriate for different age groups.
- Create a learning box, toy, or game.
- Identify safety issues in the home.
- Make a family tree.
- Become a certified baby sitter.

Resources

- Kids on the Grow, Levels 1, 2, 3 (CCS).
- Growing All Together Helper's Guide (CCS).
- American Red Cross Baby Sitter Training, available through local Red Cross Chapters.
- Babysitting Beginnings (Penn State University).

• Clothing & Textiles

What do I wear today? Clothing is basic to our everyday lives. Learn about appearance, good grooming habits, garment construction, ready-to-wear clothing selection, clothing care, and wardrobe planning.

What you can do in this project

- Learn clothing construction techniques.
- Learn to select fabrics and patterns for your own figure type, skin tone, and lifestyle.
- Construct a pillow, back pack, or garment.
- Put together a display of selected garments to demonstrate wardrobe principles.
- Enter Fashion Revue contest.
- Make a poster about types of fibers or fabrics.

Resources

- Sewing and Textiles, Levels 1, 2, 3 (CCS).
- Sewing & Textiles Helper's Guide (CCS).
- Let's Sew by Nancy Zieman (SDSU).
- A Style of Your Own, Levels 1, 2 (CCS).
- A Style of Your Own Helper's Guide (CCS).

• Consumer Education

What kinds of things do you buy? What is your budget? How do you decide what to spend your money on? Learn to be a good consumer by defining the problem, gathering information, evaluating alternatives, and making decisions. Find out how to make better decisions about wise use of resources such as your time, money, and talents.

What you can do in this project

- Learn the difference between needs and wants.
- Develop a budget, a spending plan, and a savings plan.
- Learn about benefits and drawbacks of credit.
- Do a price comparison of three or more items in a class.
- Make a poster of magazine ads and how they influence buyers.

Resources

- Consumer Savvy, Levels 1, 2, 3 (CCS).
- Consumer Savvy, Helper's Guide (CCS).
- Financial Champions, Levels 1, 2 (CCS).
- Financial Champions, Helper's Guide (CCS).

• Home Environment

Our homes and apartments are our private spaces but also places we share with family and friends. Discover how to make living spaces more comfortable, organized, and inviting. Learn about color, space planning, fabrics, and furniture.

What you can do in this project

- Plan and create a storage center.
- Arrange or re-arrange furnishings in a room using principles of design and function.
- Make a room plan to scale for a room using a template and scale symbols to represent furniture.
- Learn about color, texture, line, and shape.
- Create a swatch board with samples of paint, wallpaper, fabric, and floor coverings.

Resources

- Home Living, Unit I, 4-H 416 and 4-H 417 (SDSU).

HEALTHY LIFESTYLES

• Foods & Nutrition

Food, fun and flavor! Good nutrition doesn't have to be dull. Learn to experiment with different foods that are both good and good for you. Increase your knowledge of good health through the Food Guide Pyramid. Learn to choose nutritious foods and use proper preparation techniques.

What you can do in this project

- Learn about the Food Guide Pyramid.
- Plan a breakfast, lunch, or dinner menu for your family.
- Practice food preparation techniques.
- Participate in the Special Foods Contest.
- Make a healthy snack for a club meeting.
- Figure the cost of a recipe.
- Set a table attractively for a special occasion.

Resources

- Foods, Levels A, B, C, D (CCS).
- Foods Helper's Guide (CCS).
- Special Foods Manual (SDSU).

• Food Preservation

Good health depends on eating a variety of different foods. People on the go often don't have time to prepare fresh foods. During the winter months, fresh foods are not always available. Learn how to preserve fresh foods by canning, freezing, drying, or pickling.

What you can do in this project

- Learn to preserve fruits and vegetables.
- Practice food preservation techniques.
- Select wholesome, disease-free foods to preserve.
- Learn how to use a pressure cooker or dehydrator.
- Search cookbooks or recipe files for tasty recipes.

Resources

- National Agricultural Library (NAL), Food and Nutrition Information Center(FNIC), website: www.usda.gov/fnic/etext/000028.html.

• Food Safety

Proper preparation of food is important in avoiding illness and maintaining good health. Learn how to keep food safe by selecting fresh food, storing it at the proper temperature, and maintaining high standards of cleanliness in all stages of preparation.

What can you do in this project

- Make a poster about proper hand washing techniques.
- Buy a meat thermometer and check the temperature of meat dishes before serving.
- Give a demonstration to your group about safe food handling practices for a concession stand.
- Participate in a Special Foods contest.

Resources

- Fight Bac website www.fightbac.org/main.cfm.
- Thermy website: www.fsis.usda.gov/oa/thermy/forkids.htm.
- Special Foods Manual (SDSU).

• Fitness & Sports

Home run! When you stay physically active, you win! Whether you choose physical activity for one, such as rollerblading, or team activities, such as softball, there are many ways to be active. Learn skills, rules, and care of equipment to prepare for a lifetime of good physical health.

What you can do in this project

- Learn the rules and scoring for a sport such as tennis, golf, softball, or bowling.
- Learn to select proper exercise equipment.
- Organize a game of kick ball or softball for a club meeting.
- Teach soccer, tennis, or badminton to a group of younger club members or an afterschool group.
- Participate in team or individual sports.
- Keep an exercise log or diary.
- Participate in the President's Physical Fitness challenge.

Resources

- Get Fit! A Handbook for Youth Ages 6-17, President's Council for Physical Fitness.

• Health & First Aid

Health is physical, but it is also social, emotional, intellectual, and occupational. Learn how you change as you grow and how to meet the challenges of every stage of development.

What you can do in this project

- Learn self-help health skills, such as stress management.
- Learn how to report an emergency.
- Make a first aid kit for your home, vehicle, tractor, or boat.
- Take a course to learn basic first aid techniques.
- Make a list of emergency numbers to place by your phone.
- Volunteer to help with a health screening or immunization program sponsored by an agency in your community.
- Make a display about the effects of using tobacco.

Resources

- Health A — Discovering Myself (CCS).
- Health — Exploring Your Body Helper's Guide for K-2 (CCS).

• Safety

Keep yourself and others around you safe! Involve the entire family in being safety-conscious. Develop the ability to recognize hazards and learn how to correct them. Explore safety issues in these areas: the home environment, chemicals, animals, electrical, fire, recreation, farm machinery, and traffic.

What you can do in this project

- Make a fire exit plan for your family.
- Make a list of emergency numbers to place by the phone or program into the cell phone.
- Do a safety inspection of your house, garage, or other buildings.
- Baby-proof or pet-proof a room in your home.

Resources

- South Dakota Department of Health website: www.state.sd.us/doh.
- Bicycle Adventures, Levels 1, 2, 3 (CCS).
- Bicycle Adventures Helper's Guide (CCS).
- Bicycle Adventures, Fix It Video (CCS).

SHOOTING SPORTS

• Shooting Sports

Learn about safety, proper care and handling of equipment, and marksmanship in the disciplines of BB gun, archery, air rifle/air pistol, and shot gun.

What you can do in this project

- Become familiar with parts of a gun or bow (archery).
- Learn the fundamentals of marksmanship.
- Learn about safety in the field or on a range.
- Find out about hunting regulations in your state.
- Practice ethical hunting procedures.
- Make a calendar of hunting seasons in your area/state.

Resources

- Contact the certified shooting sports instructor or the county Extension office in your area

TECHNOLOGY & ENGINEERING

• Aerospace & Rocketry

The fascination of flying an airplane, launching a rocket, conquering space, and becoming an astronaut or pilot will come alive as you explore aviation and space. Learn about flying kites, hot air balloons, remote control airplanes, gliders, and space shuttles.

What you can do in this project

- Identify a variety of aircraft.
- Design, build, and launch your own rocket or model plane.
- Learn about safety issues for constructing and launching rockets.
- Visit an airport.

Resources

- Aerospace Adventures, Levels 1, 2, 3, 4 (CCS).
- Aerospace Adventures Helper's Guide (CCS).
- Science Discovery Series, Level 2 (CCS).
- www.nasakids.com

• Automotive & Small Engines

Explore basic principles of how engines work. Learn about engines in lawn mowers, motorcycles, farm machinery, and cars. Discover how to safely operate and care for machinery.

What you can do in this project

- Learn how to operate machines safely.
- Learn how to properly maintain a vehicle.
- Evaluate the cost of owning and operating a vehicle.
- Practice assembling and disassembling an engine.
- Keep records of purchase, operating, and maintenance costs.
- Demonstrate how to time an engine.

Resources

- Start Your Engines, Levels 1, 2, 3 (CCS).
- Small Engines Helper's Guide (CCS).

• Bicycle

Bicycles provide convenient travel, good exercise, and recreation. Discover many opportunities available through bicycling. Learn about safety, caring for and maintaining your bike, and riding skills. Plan a fun bicycle adventure or bicycle rodeo.

What you can do in this project

- Learn the parts of a bicycle and how to care for it.
- Learn safe bicycle riding rules, including hand signals.
- Perform safety checks.
- Learn the importance of wearing a helmet and how to fit it.
- Organize a bike rodeo.

Resources

- Bicycle Adventures, Levels 1, 2, 3 (CCS).
- Bicycle Adventures Helper's Guide (CCS).
- Bicycle Adventures, Fix It Video (CCS).

• Computers & Technology

Learn about computers, software, and the Internet by using a combination of interactive CD-ROMs and Web-based activities.

What you can do in this project

- Become familiar with several software programs.
- Learn to use the Internet.
- Identify computer hardware.
- Learn how to build and repair your own computer system.
- Explore ways to use a computer in other 4-H projects.

Resources

- Computer Mysteries, Levels 1, 2, 3 (CCS).
- Computer Mysteries Helper's Guide (CCS).

• Electricity

Shocking? Discover how electricity works and how it saves time and labor. Learn to use this energy source safely and wisely.

What you can do in this project

- Learn how electricity is transported from generating plant to consumer.
- Learn the basic concepts and terminology of electricity.
- Construct simple switches/circuit boards/wire circuits.
- Measure electricity usage of appliances.
- Conduct a home safety hazard hunt of plugs, outlets, electrical cords.

Resources

- Electric Excitement, Levels 1, 2, 3, 4 (CCS).
- Electric Helper's Guide (CCS).

• Welding

Develop welding skills for use on the farm/ranch or in preparation for a career in welding. May be Acetylene or ARC welding.

What you can do in this project

- Learn basics of operation, application, and adjustment of welding equipment.
- Discover the different kinds of welding, how they work and how they are different from each other.

Resources

- Welder's Guide: Welding Power Sources, 4H530-S (SDSU).

• Wood Science

Build, remodel, or repair wooden objects, furniture, and home accessories. Learn to identify the different types of wood. Develop woodworking skills and finishing techniques.

What you can do in this project

- Learn operation, application, and adjustment of equipment.
- Learn the difference between soft and hard varieties of wood.
- Practice safe and proper use and care of hand and power tools.

Resources

- Wood Science, Levels 1, 2, 3, 4 (CCS).
- Wood Science Helper's Guide (CCS).

EARTH SCIENCES & THE ENVIRONMENT

• Geology & Minerals

Earth rocks! Learn about the importance of rocks and minerals in our daily lives. Discover the history of South Dakota and other locations through rocks and fossils.

What you can do in this project

- Learn about rocks and minerals and how to classify them.
- Take a field trip and keep notes about rocks you find.
- Collect, clean, identify, and label rocks, minerals, and fossils.

Resources

- DK Handbooks: Rocks & Minerals, ISBN 0789491060.
- Encyclopedia of Rocks, Minerals and Gemstones, ISBN 1571455620.
- Science Discovery Series, Level 1 (CCS).
- Wonderwise: Space Geologist, Unit 7.

• Conservation & Stewardship

Our planet is rich in resources—water, clean air, vegetation, and animals. Learn how to manage and use them wisely. Understand the natural world and our dependence on natural resources.

What you can do in this project

- Learn the four elements of life.
- Build your own ecosystem.
- Make a compost to use for your garden and reduce waste.
- Organize a recycling project in your community.
- Learn how plants and animals depend on each other.

Resources

- Exploring Your Environment, Levels 1, 2, 3 (CCS).
- Exploring Your Environment Helper's Guide (CCS).
- Science Discovery Series, Level 2 (CCS).

• Soil & Soil Conservation

What is the soil like where you live? Some soils are sandy, others are clay-like, and others are just good black dirt. Find out what will grow in each of these soil types, how to test soil, and how to improve soils.

What you can do in this project

- Learn how land is formed.
- Study soil conservation and erosion.

Resources

- Dig In! ISBN 0-87355-189-3.
- Helping People Understand Soils, Tools for Educators, Version 2 (USDA, NRCS).
- Wrangler Handbook, South Dakota Rangeland Days .
- Nebraska website: http://4h.unl.edu/pdf/Pick-A-Project%202004.pdf.

• Water & Water Conservation

Did you ever try to get along without water for a day, or even for an hour? Water is essential to life. Learn about sources of water, safe water, and water conservation.

What you can do in this project

- Build a model of a watershed.
- Learn about the Missouri River.
- Take a water sample and have it tested for water quality.

Resources

- Exploring Your Environment, Levels 1, 2, 3 (CCS).
- Exploring Your Environment Helper's Guide (CCS).
- Science Discovery Series, Level 1 (CCS).
- WonderWise: Urban Ecologist, Unit 6.

• Energy for Home, Farm, & Transportation

Power up! Learn about the various types of energy used today for home heating/cooling, farm machines and farming, and various types of transportation. Explore new sources of energy for our homes, cars, and factories.

What you can do in this project

- Identify types of energy consumed on the farm or in your home.
- Find out how types of energy are produced, e.g., wind energy.
- Research energy sources for new products such as hybrid cars.
- Learn about the cost of heating an improperly insulated home compared to a properly insulated one.
- Talk to a gas or electric company representative about methods to reduce energy consumption on the farm/in your home.
- Compare energy ratings/consumption on home appliances.

Resources

- 4H Energy, University of Kentucky website: www.ca.uky.edu/agc/pubs/4HPUBS.HTM. Look for publications 4HA-01PB, and 4HA-04PC.

• Forestry

Identify one tree or a whole forest of trees. Gain knowledge of how trees grow, how they reproduce, and why they are important to the environment and to our everyday lives.

What you can do in this project

- Learn to identify different kinds of trees in your community.
- Learn how trees survive during drought.
- Learn about the role trees play in the environment.
- Give a talk explaining methods used to replenish forests.
- Plant tree(s) in your yard, park, or school grounds. Take care of it throughout the summer.

Resources

- Forestry, Levels 1, 2, 3 (CCS).
- Forestry Helper's Guide (CCS).
- Science Discovery Series, Level 1, 2 (CCS).

• Range Science & Pasture Management

Rangeland and ecosystems have evolved over time. People and animals can live in harmony through proper range management. Good management practices help support livestock businesses. Learn about plants and environmental conditions on the range.

What you can do in this project

- Understand plant vigor and the effects of grazing on plants.
- Identify range sites and calculate range conditions.
- Understand stocking rates.
- Make a notebook or display classifying different range plants.

Resources

- Range Plant Collections & Exhibits, 4-H-145 (SDSU).
- Grassland Plants, ISBN 0913062065.
- Plants of the Black Hills & Bear Lodge Mountains, ISBN 0913062057.

• Wildlife & Fisheries

What is a habitat? Where do animals and fish live and why? Learn about different types of wildlife or fish and their habitats. Explore management practices - both to preserve the species and to allow hunting/fishing. Observe and identify birds, mammals, fish, reptiles, or amphibians in their many different environments.

What you can do in this project

- Find out what kinds of fish are found in your area.
- Learn wildlife management terms, e.g., *travel lanes* and *predation*.
- Make a nature diorama.
- Take plaster casts of animal tracks.
- Learn about animals' homes.
- Create fishing tackle.
- Learn how to be a good steward of aquatic resources.

Resources

- Fishing for Adventure, Sportfishing, Levels 1, 2, 3 (CCS).
- Sportfishing Helper's Guide (CCS).
- WonderWise: Sea Otter Biologist, Unit 1.
- WonderWise: Vet Detective, Unit 8.

BIOLOGICAL SCIENCES

• Entomology & Bees

Bzzzz! Learn about insects found in the soil, on plants, in homes, on pets, and other secret places! You may study of all types of insects - both beneficial and harmful. Using the entomology guides, you can explore the fascinating and amazing world of insects, including their arthropod relatives.

What you can do in this project

- Learn to classify insects.
- Explore ways that insects communicate.
- Plant a butterfly garden.
- Study insects and their relationship to agricultural products, public health, and natural resources.
- Give a demonstration on how to pin, spread, and prepare insects for a collection or display.

Resources

- Entomology, Levels 1, 2, 3 (CCS).
- Entomology Helper's Guide (CCS).

• Embryology

Study the development of an egg through hatching. Learn about embryo transfer in livestock.

What you can do in this project

- Learn about the stages of development of an embryo.
- Explore ways embryology is benefiting agriculture today.
- Make a chart of the gestation lengths for each species of livestock.
- Build and operate an incubator.
- Watch an embryo develop.

Resources

- Embryology 1: Hatching Classroom Fun (grd. 2-5) (CCS).
- Embryology 2: Experiments in Poultry Science (grd. 6–8) (CCS).
- Chick Development Poster (CCS).

• Veterinary Science

Discover how to better understand animals. Whether you live in a rural or urban area, knowledge of animal diseases and health care is very valuable. Learn about basic animal health, the relationship between the animal and its environment, and the importance of animal health to humans.

What you can do in this project

- Take an animal's pulse and temperature.
- Recognize healthy skin and membranes.
- Collect and make a file of various disinfectants.
- Research recent developments in an animal disease.
- Trace the discovery of control measures for various diseases.

Resources

- Veterinary Science, Levels 1, 2, 3 (CCS).
- Veterinary Helper's Guide (CCS).
- WonderWise: Vet Detective Unit #8.

PLANTS

• Plant Science, Crops & Weeds

Both animals and humans rely on plants for food. Explore how this need is met. Learn how plant and soil characteristics, crossbreeding, fertilization, and genetics improve yields. Learn about sampling, testing, and judging plant varieties.

What you can do in this project

- Learn how plants reproduce.
- Find out about harvesting and marketing crops.
- Make a seed collection and learn to identify different crops.
- Learn what soil is made of.
- Learn how weather affects plant growth.
- Collect a soil sample for a chemical fertilizer requirements test.
- Interview your local fertilizer dealer.
- Learn effective, safe methods of pest control.

Resources

- Extension Extras: Cooperative Extension Service publications website: http://agbiopubs.sdstate.edu/.
- SD Soil Classification Key, TB 96.
- Fertilizer Recommendations Guide, EC 750-02.
- Small Grains, Variety Recommendations, EC 774-03.

• Horticulture, Gardening & Landscaping

How does your garden grow? Soil, temperature, moisture, and nutrients are common elements in the successful growing of plants. Explore how these elements affect the growth of vegetables, flowers, plants, and shrubs.

What you can do in this project

- Learn the difference between annual, perennial, and biennial plants.
- Identify different sources for seeds, seedlings, and plants.
- Draw a landscape plan for your yard or another location.
- Demonstrate how to make a terrarium or fresh-cut flower arrangement.
- Grow flowers or vegetables from seeds in a garden.
- Learn the 'whys' of mulches and mulching, compare plastic, sawdust, straw, and none.
- Identify each weed in your lawn/garden.
- Help in a nursery, a city parks department, or a landscape firm.

Resources

- Down-To-Earth Classroom Gardening (CCS).
- Horticulture, Levels 1, 2, 3 (CCS).
- Horticulture Helper's Guide (CCS).
- Gardening, Levels A, B, C, D (CCS).
- Gardening Group Activity, Helper's Guide (CCS).
- Gardening Exhibit Guide (CCS).
- A Guide to Growing Vegetables for Exhibition, 4H 702 (SDSU).
- Preparing Horticultural Exhibits (SDSU, 2003 4-H CD-ROM).

LARGE ANIMALS

• Dairy Cattle & Goats

Learn about the dairy industry through ownership of and care for dairy animals and through active participation in community events. You may show a dairy calf, heifer, cow, or goat as part of the project. Special guidelines apply to showing livestock at 4-H shows.

What you can do in this project

- Recognize the various dairy breeds: cattle or goats. Make a chart of the breeds.
- Learn about dairy products and how they are produced, packaged, and marketed.
- Learn how to care for dairy animals and keep them healthy.
- Attend a dairy show and take part in dairy judging schools.

Resources

- Dairy, Levels 1, 2, 3 (CCS).
- Dairy Helper's Guide (CCS).
- Dairy Goat, Levels 1, 2, 3 (CCS).
- Dairy Goat Helper's Guide (CCS).
- Dairy Cattle Learning Lab: Available from the Family and Youth/4-H Department.
- Dairy Goat Learning Lab: Available from the Family and Youth/4-H Department.

Beef

Gain experience in selecting, feeding, managing, and marketing of beef animals. As part of the beef project, you may show a beef animal. Special guidelines apply to showing livestock at 4-H shows. You may choose either a breeding project or a market project.

What you can do in this project

- Learn beef cattle parts and different breeds.
- Find out how to care for beef cattle and learn about their nutritional needs.
- Learn to make bull-buying decisions.
- Study why and how feeder and slaughter steers are put into grades.

Resources

- Beef, Levels 1, 2, 3 (CCS).
- Beef Helper's Guide (CCS).
- Beef Learning Lab (Ohio State): available in Field Education Units.
- Beef Resources Handbook 4-H 117R (Ohio State): available in county Extension offices.

Sheep & Wool

Learn about sheep production, management, and marketing. You may show sheep as part of the project. Special guidelines apply for showing livestock at 4-H shows. Choose a breeding or market project.

What you can do in this project

- Learn how to feed and care for sheep.
- Make a poster of different breeds of sheep.
- Learn to identify different parts of a sheep.
- Learn how to fit and show sheep.
- Own or manage one or more ewes and her lambs.
- Set production goals and make graphs or charts of results.
- Figure out how much and what a ewe or lamb eats in one year.
- Demonstrate how to feed a lamb at different ages.

Resources

- Sheep, Levels 1, 2, 3 (CCS).
- Sheep Helper's Guide (CCS).
- Sheep Resource Handbook 4-H 149R (Ohio State): available in County Extension offices.
- Sheep Learning Lab (Ohio State): available from the Family and Youth/4-H Department.

Swine

Learn to purchase, care for, feed, manage, and market swine. You may show swine as part of the project. Special guidelines apply to showing livestock at 4-H shows. Choose a breeding or market project.

What you can do in this project

- Learn how to feed and care for swine.
- Learn to select and manage swine.
- Make a diagram of pig parts.
- Find out how to manage a swine breeding operation.
- Keep accurate feed, health, and cost records.
- Attend a local pork producers meeting and find out how they are promoting the pork industry.

Resources

- Swine, Levels 1, 2, 3 (CCS).
- Swine Helper's Guide (CCS).
- Swine Resource Handbook 4-H 134R (Ohio State): available in county Extension offices.
- Swine Learning Lab (Ohio State): available from the Family and Youth/4-H department.

Horse & Pony

Horses provide opportunities for recreation, competition, or work. Learn about animal care, safety, good horsemanship skills, and training. You may show a horse as part of the project. Special guidelines apply to showing horses at 4-H shows.

What you can do in this project

- Learn about horse parts and breeds.
- Learn how to care for a horse and plan a horse health program.
- Make a list of essential horse tack.
- Figure costs to raise and keep a horse.
- Learn how to age a horse by its teeth.
- Participate in horse judging activities.
- Promote respect for and humane treatment of animals.
- Learn about careers with horses.

Resources

- Horse, Levels 1, 2, 3 ,4, 5 (CCS).
- Horse Helper's Guide (CCS).
- South Dakota 4-H Horse Safety Training Manual.
- South Dakota 4-H Horse Show Project Guide.
- Horse Learning Lab (Ohio State): available from the Family and Youth/4-H department.

Rodeo

Rodeo began with skills that cowboys needed to raise and herd cattle. Learn to care for and train your horse and practice horsemanship skills. You may compete in 4-H rodeos or other youth rodeos.

What you can do in this project

- Describe the role of physical fitness in rodeo.
- Give a talk on proper warm-ups for horses.
- Make a model arena and use it to explain proper training practices for a barrel horse.
- Attend a 4-H rodeo and give a report to your 4-H club.

Resources

- South Dakota 4-H Horse Safety Training Manual.
- South Dakota 4-H Rodeo Rules and Regulations.

SMALL ANIMALS

• Cats & Other Small Pets

Learn how to care for cats, gerbils, hamsters, birds (canaries and parakeets), and guinea pigs. Begin by learning about the needs and care of a pet before the family selects a pet. If you currently have a pet, learn more about its behavior, its nutritional needs, and health care. As part of the pet project, you may show a cat. Special guidelines apply to showing animals at 4-H shows.

What you can do in this project

- Make a poster of 10 or more cat breeds.
- Make a list of different kinds of small pets.
- Learn laws regarding pet care, pet waste, pet vaccinations, etc.
- Figure costs to keep a cat/pet.
- Train, groom, and show a cat.
- Study pet behavior and make a chart of a pet's reactions to noise, music, wind, etc.
- Learn first aid for your pet.
- Attend a cat or dog show.

Resources

- Cat, Levels 1, 2, 3 (CCS).
- Cat Helper's Guide (CCS).
- Pets, Levels 1, 2, 3 (CCS).
- Pets Helper's Guide (CCS).
- Cat Project Guidelines (SDSU).

• Dog, Dog Obedience & Dog Agility

Man or woman's best friend? People love their dogs. Learn to care for and train your dog. Gain proficiency in some phase of dog work, such as training, obedience, or agility. You may show dogs in showmanship, obedience, and agility as part of the dog project. Special guidelines apply for showing dogs at 4-H shows.

What you can do in this project

- Make a chart of the seven breed groups: sporting, hound, working, terrier, toy, non-sporting, and herding.
- Become familiar with the roles of service dogs.
- Attend an obedience school or training clinic in your area. Take your dog along.
- Conduct a training clinic or dog show for your county. Serve as a junior leader for younger members enrolled in a dog project.

Resources

- Dog, Levels 1, 2, 3 (CCS).
- Dog Helper's Guide (CCS).
- Showmanship Tips for SD 4-H Dog Handlers, SD200 (SDSU).
- Introduction to Dog Agility, ISBN 0764114395.
- Dog Learning Lab (Ohio State): available from the Family and Youth/4-H Department.

• Poultry & Eggs

Learn about production and marketing of poultry and/or eggs. You may show birds as part of the poultry project. Special guidelines apply for showing poultry at 4-H shows.

What you can do in this project

- Learn basic disease control and sanitation practices.
- Figure the costs to raise poultry.
- Discover how an egg is formed. Set up a brooder unit with brooder, water, feed, litter, etc.
- Identify poultry breeds in your area.

Resources

- Poultry, Levels 1, 2, 3 (CCS).
- Poultry Helper's Guide (CCS).
- Poultry Showmanship Video (SDSU).
- Poultry Learning Lab (Ohio State): available from the Family and Youth/4-H Department.
- Embryology, Levels 1, 2 (CCS).

• Rabbits

Raising rabbits requires very little space and a small investment. Learn to recognize quality animals according to the breed's standards. You may show rabbits as part of the project. Special guidelines apply to showing animals at 4-H shows.

What you can do in this project

- Learn about rabbit parts and breeds.
- Become familiar with the standards for rabbit breeds.
- Find out how to tattoo a rabbit.
- Build a rabbit hutch.
- Raise a litter of young rabbits.

Resources

- Rabbit, Level 1, 2, 3 (CCS).
- Rabbit Helper's Guide (CCS).
- Rabbit Showing Lab (Ohio State): available for the Family and Youth/4-H Department.

EXPLORING 4-H

• Exploring 4-H

If you are a young or first-time 4-H member, you will have the opportunity to discover what your interests are. Explore arts and crafts, clothing, electricity, crops, conservation, food, entomology, home environment, child development, photography, rocks and minerals, or safety/health.

What you can do in this project

- Sample activities in several different 4-H project areas.
- Plan a nutritious meal (Foods & Nutrition).
- Make a puzzle or game (Child Development).
- Create a collage or paint a picture (Visual Arts).
- Be responsible for your pet (Small Animals).

Resources

- Exploring 4-H (CCS, available in 2006).
- Adventures in Learning (North Carolina State University).

CLOVERBUDS

• Cloverbuds (Ages 5-8)

Cloverbuds is the name of the non-competitive, educational program for youth ages five to eight years. Cloverbuds explore through various learning experiences. Curriculum has been selected specifically to allow Cloverbuds to be involved in activities and learning experiences that are developmentally appropriate. Children learn social skills, develop self-esteem, and build individual and family strengths.

What you can do in this project

- Learn about yourself in relation to your family and your community.
- Practice safety skills and personal healthy habits.
- Take part in group activities.

Resources

- South Dakota Cloverbuds Guidelines (Revised 2003).
- Cloverbuds, Series 1 and 2, Ohio State University.
- Cloverkids, University of Missouri.
- Gifts of Gold and Crazy About Corn (CCS).

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