SPECIAL NOTES:

4-H projects open a world of learning and excitement! The best part is that YOU decide what you want to learn! As a 4-H member, you are in charge of selecting the project you will complete. In making your decision, consider whether you have the resources and materials required as well as the project difficulty level and age requirements. Do not hesitate to ask an adult leader or caregiver for help if you have questions about what may be needed to complete a project. Also, be sure to begin your project work EARLY for a positive and fun learning experience.

Beginner, Intermediate and Advanced indicate the degree of difficulty and the approximate age levels (9-12, 13-15 and 16-21, respectively). A project exhibit consists of the completed project booklet, project exhibit and activity record.

ANIMAL SCIENCE

Record guides for livestock projects have three levels to coincide with the 4-H/FFA Animal Husbandry and Quality Assurance training. The levels are based on the age of the 4-H member on January 1 of the current 4-H year. Beginner is for ages 8 to 10; Intermediate is for ages 11 to 13; Advanced is for ages 14 to 20. Livestock record guides for breeding animals (heifers/cows, ewes, does, gilts, etc.) each have a supplement sheet that members complete for each of their project animals.

VETERINARY SCIENCE (Advanced)

This highly challenging three-project series explores the exciting world of veterinary science. These are excellent advanced projects to supplement the other animal projects. You must have access to an animal to make observations needed for completing certain units.

In The Normal Animal (Vet Science 1), you will learn to how to take an animal’s temperature and pulse, how to recognize healthy skin and membranes, and how to clean and disinfect animals’ quarters.

In Animal Disease (Vet Science 2), you will study bacteria, viruses and parasites; learn about diseases’ relationship to nutrition, stress, heredity and poison; and learn basic disease prevention techniques.

Animal Health and its Relationship to Our World (Vet Science 3) involves studying environmental influences on animal health, learning about maintaining animal health and exploring veterinary medicine as a career.

BEEF (Any Age)

Each booklet contains activities for three years. Complete seven beef achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Beef Heifer/Cow, Feeder Calf or Market Beef Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the beef curriculum as a resource.

In Bite Into Beef (Beef 1), you will identify breeds, locate beef parts, judge, halter break a calf, fit a steer, show a calf, recognize a healthy animal, select feed ingredients, and shop for beef and beef by-products.

Here’s the Beef (Beef 2) provides challenging activities related to leg structure, oral reasons, feed ingredients, behavior, nose printing, parasites, fitting, ethical issues, beef carcass composition and retail meat cuts.

Leading the Charge (Beef 3) encourages more in-depth learning about selection and judging, feeding, careers, health and reproduction, and meats and marketing.

DAIRY CATTLE (Any Age)

Each booklet contains activities for three years. Complete seven dairy achievement program activities each year; complete each level within three years; and participate in the required number of project learning
experiences each year. If enrolled with an animal, you will need to select the 4-H Dairy Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the dairy curriculum as a resource.

Cowabunga! (Dairy 1) explores breeds, selecting calves, body parts, desirable traits, packing a show box, grooming and showing a calf, and identifying stages of calving and care.

Mooving Ahead (Dairy 2) features judging, identifying, ethical decision-making, keeping animals healthy, parasites, behavior, housing, hay quality, milking, food safety and careers.

In Rising to the Top (Dairy 3), you will practice body condition scoring, select through records, detect mastitis, balance a ration, detect pregnancy, deliver a calf, promote dairy products and explore career opportunities.

HORSE (Any Age)

Each booklet contains activities for three years. Complete seven horse achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Horse Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the horse curriculum as a resource.

Giddy Up and Go (Horse 1) covers horse behavior, terms, breed identification, body parts, selection, grooming, saddling and bridling, and safety and equipment.

In Head, Heart and Hooves (Horse 2), you learn more about acquiring and raising a horse, nutrition and care, teeth and bones, and judging, including giving oral reasons.

Stable Relationships (Horse 3) has you exploring horse reproduction, diseases and health care, pasture management, providing appropriate shelter and building a financial plan.

In Riding the Range (Horse 4), you’ll learn nine basic riding skills and ten horsemanship skills, training techniques, trail riding and selection, and use of tack.

Jumping to New Heights (Horse 5) has you learning more advanced riding skills, the Quarter System, horse showmanship, ethics and leadership.

SHEEP (Any Age)

Each booklet contains activities for three years. Complete seven sheep achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Breeding Sheep or 4-H Market Lamb Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the sheep curriculum as a resource.

Lambs, Rams and You (Sheep 1) introduces you to a wide variety of fun and challenging activities including identifying parts, selecting a project lamb, preparing for lambing, identifying lamb cuts, feeding and showing a sheep.

In Shear Delight (Sheep 2), you will practice presenting oral reasons, determine yield grades, compare digestive systems, explore a feed tag, practice management skills, deliver a lamb, treat parasites and discuss ethical decision-making.

Leading the Flock (Sheep 3) features activities related to judging, budgeting, web surfing, understanding reproduction and genetics, surveying consumers, exploring careers, marketing products and teaching others.

SWINE (Any Age)

Each booklet contains activities for three years. Complete seven swine achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Purebred Swine or 4-H Market Hog Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the swine curriculum as a resource.

The Incredible Pig (Swine 1) introduces you to naming breeds, learning swine body parts, judging market hogs, exploring a digestive system, examining a healthy pig, identifying pork cuts, and practicing fitting and showing.
**Putting the Oink in Pig** (Swine 2) includes managing baby pigs, balancing a ration, exploring swine diseases, preparing pork, discovering swine careers and packing a show box.

In **Going Whole Hog** (Swine 3), you will plan a breeding system, judge breeding gilts, design a swine operation and complete a job application.

**POULTRY (Any Age)**

Each booklet contains activities for three years. Complete seven poultry achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Breeding Poultry or 4-H Market Poultry Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the poultry curriculum as a resource.

Topics in **Scratching the Surface** (Poultry 1) include identifying parts, species and breeds, selection, exploring an egg, cooking eggs, features of feathers, feeding, handling, washing and showing.

**Testing Your Wings** (Poultry 2) has you making a budget, determining pecking order, identifying bones, grading carcasses, selecting layers using the Standard of Perfection, examining an egg and keeping poultry healthy.

In **Flocking Together** (Poultry 3), you will develop leadership skills by planning a judging clinic, managing a flock, exploring careers, processing chickens, conducting poultry games, and discussing values and ethics.

**DOG (Any Age)**

Each booklet contains activities for three years. Complete seven dog achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Dog Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the dog curriculum as a resource.

The activities in **Wiggles and Wags** (Dog 1) relate to body parts, selection, correcting behavior, housebreaking a puppy, body language, controlling fleas, health care, grooming and training a dog to respond to seven basic commands.

**Canine Connection** (Dog 2) explores dog web resources; breed origins; health, safety, feeding and parasite control; locating a missing dog; socialization; showmanship; and tricks.

In **Leading the Pack** (Dog 3), you will share knowledge and skills as you learn how to plan and conduct a dog show, a showmanship clinic, a puppy training class and a skillathon as well as research zoonosis diseases, administer emergency first aid, explore dog laws and dog careers, and teach others about)

**RABBIT (Any Age)**

Each booklet contains activities for three years. Complete seven rabbit achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year; and increase your rabbit knowledge and skills. If enrolled with an animal, you will need to select the 4-H Breeding Rabbit or 4-H Market Rabbit Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the rabbit curriculum as a resource.

**What's Hoppening** (Rabbit 1) covers identifying breeds, handling and showing rabbits, identifying rabbit parts and equipment, recognizing a healthy rabbit, reading a pedigree and kindling a litter.

In **Making Tracks** (Rabbit 2) you will learn to recognize body types, judge and show rabbits, tattoo a rabbit, keep records, identify diseases, administer medication, record growth rates and market products.

In **All Ears** (Rabbit 3) you will develop a breeding program, design a rabbitry, cull based on production, prevent diseases, develop sportsmanship and develop a marketing plan.

**DAIRY GOAT (Any Age)**

Each booklet contains activities for three years. Complete seven dairy goat achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Dairy Goat Record Guide to accompany this project. If enrolled
without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the dairy goat curriculum as a resource.

**Getting Your Goat** (Dairy Goat 1) focuses on selection, body parts, breeds, management, records, safety, disease prevention, feed ingredients, products, grooming and showmanship.

**Stepping Out** (Dairy Goat 2) continues with activities and information on exhibiting, judging dairy goats, giving oral reasons, delivering a kid dairy goat, caring for a newborn, performing dairy goat management practices, recognizing health problems and diseases, and determining hay quality.

In **Showing the Way** (Dairy Goat 3), you will plan a judging contest, evaluate a dairy goat heard, select a breeding system, determine body condition scores, develop a herd calendar, formulate a ration and develop a commercial.

### MEAT GOAT (Any Age)

Each booklet contains activities for three years. Complete seven meat goat achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Breeding Meat Goat or 4-H Market Goat Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the meat goat curriculum as a resource.

**Just Browsing** (Meat Goat 1) explores meat goat body parts, meat goat selection, breeds, record keeping, meat goat and dairy conformation, show preparations, sportsmanship, meat goat health, feed selection and several management skills.

In **Get Growing with Meat Goats** (Meat Goat 2), you will explore meat goat diseases, selecting stock, poisonous plants, body condition, water quality, goat predators, kidding, meat goat reproduction and showing meat goats.

In **Meating the Future** (Meat Goat 3), you discover how to select breeding sires, balance a ration, prevent diseases, control internal and external parasites, practice biosecurity, practice sound ethics, conduct a meat goat judging clinic, judge goats, give oral reasons and explore meat goat products.

### PETS (Any Age)

Each booklet contains activities for three years. Complete seven pets achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Pets Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the pets curriculum as a resource.

**Pets Pals** (Pets 1) explores pet selection, body part identification, pet art, pet communication, handling, housing and daily needs.

In **Scurrying Ahead** (Pets 2), you will develop planning and decision-making skills as you debate pet topics, create a story, observe pet behavior, promote a product, exhibit a pet, and feed and care for pets.

**Scaling the Heights** (Pets 3) covers genetics, pet issues, reproduction, caring for newborns, starting a business and careers.

### CAT (Any Age)

Each booklet contains activities for three years. Complete seven cat achievement program activities each year; complete each level within three years; and participate in the required number of project learning experiences each year. If enrolled with an animal, you will need to select the 4-H Cat Record Guide to accompany this project. If enrolled without an animal, check with your Extension agent for approval. It is suggested that you consult with your Extension agent about using the Self-Determined project with the cat curriculum as a resource.

**Purr-fect Pals** (Cat 1) includes cat selection, breed identification, pet art, pet communication, handling, housing and daily needs.

In **Climbing Up!** (Cat 2), you will explore breeds, cat senses, shows, tricks, signs of illness and health, cat sounds, emergency situations, feeding, special diets and traveling with a cat.

In **Leaping Forward** (Cat 3), you will explore veterinary procedures, body systems, diseases, reproduction, genetics, older cats’ needs, behavior, showmanship, community laws, animal welfare and personal strengths.
PLANT SCIENCES AND CROPS

**POTATOES (Intermediate)**

You must have the necessary land, time and equipment to take this project. Certified seed is to be used. **Minimum amount to plant:**
- **first year** – 100 pounds or 2,400 square feet;
- **second year** – 200 pounds or 4,800 square feet;
- **third and all other years** – 300 pounds or 7,200 square feet.

**Exhibit:** Fourteen of the best potatoes each year.

**STRAWBERRY**

**Strawberry Planting (Intermediate).** You should be interested in working with strawberries for at least two years. The size of the planting is determined by you and a parent. A minimum of 25 plants is required for the first year. **Exhibit:** Late August field score.

**Strawberry Harvesting (Intermediate).** Harvest the berries from plants started in strawberry planting project the previous year. Records of labor, income and expenses are kept. If you want to enlarge the planting, you should enroll in strawberry planting, also. **Exhibit:** Four quarts of berries or as directed by your Extension agent.

**GARDENING**

This series helps kids learn about garden planning, planting, care, harvesting, storage and careers! Perfect for activities at home, school garden programs or out-of-school activities. The multi-year activity books are divided into six major units. Each unit contains some general background information and two different activities.

**See Them Sprout: Gardening (Level 1).** This project encourages youth to plan and plant a garden using different methods, understand plant parts, care for a garden, use garden tools, use their harvest and identify vegetable products. This is a two-year project. Perfect for grades 5 to 6, but can be used by youth of any age based on their skill level and experience.

**Let’s Get Growing: Gardening (Level 2).** This project focuses on the following gardening skills: using transplants in a garden, developing a planting calendar to start seeds indoors, understanding plant responses, growing plants from plant parts, making a worm box, making compost, judging vegetables and growing vegetables for cash. This is a two-year project. Target Age: Grades 7 to 8.

**Take Your Pick: Gardening (Level 3).** This project is divided into six major units. Each unit contains some general background information and two different activities. Each activity is designed so the young person has an opportunity to learn by doing. Includes a Vegetable Planting Guide, Record Sheets, and additional Gardening Resources. This is a two-year project. Target Age: Grades 7 to 9.

**Growing Profits: Gardening (Level 4).** This project is divided into six major units. Each unit contains some general background information and two different activities. Each activity is designed so the young person has an opportunity to learn by doing. This is a three-year project. Target Age: Grades 10 to 12.

**TECHNOLOGY AND ENGINEERING**

**TRACTOR (Intermediate)**

*(Should be at least 14 years old and have taken the Small Engines series.)*

The 4-H tractor program provides you with educational information about agricultural tractors and machinery. You’ll develop project skills (principles of engine operation, hydraulic systems, electrical systems, safe operation) and life skills (decision-making, using science and technology, developing communication skills).

**Starting Up** (Tractor A) is for you if you have little or no experience with a tractor and equipment. Project skills covered include safety procedures, mechanics of the engine, accessory equipment, how to use the operator’s manual, tractor maintenance and function of different operational systems.

**Tractor Operation** (Tractor B) builds on what you learned in **Starting Up**. Much of the manual is geared toward farm and tractor safety and tractor maintenance. Also covered are mechanics of the engine, accessory equipment and function of different operational systems.

**Moving Out** (Tractor C) requires some prior agricultural tractor and equipment experience. You will learn about farm safety, tractor maintenance, different types of oil systems and fuel safety.

To take **Learning More** (Tractor D), you also need some prior agricultural tractor and equipment experience. This manual contains the major areas: safety, maintenance, mechanics, operational systems and equipment.
**SMALL ENGINES (Any Age)**

Lawn mowers, snow blowers, personal water craft, go-carts, model airplanes and ATVs are just a few of the literally hundreds of machines powered by small engines. Each booklet in this series contains activities for three years. Complete seven small engines achievement program activities each year; complete each level within three years; and complete all steps of the planning guide learning experiences.

*Crank It Up* (Small Engines 1) helps you learn how an engine works, how you might earn some extra money with your small engine project and how to match the machine to the job.

*Warm It Up* (Small Engines 2) focuses on types of engines, engine parts, specialty tools and types of lubrication.

In *Tune It Up* (Small Engines 3), you will tear down and rebuild engines and learn skills that will help you get a job, communicate with professionals and customers, and troubleshoot.

**BICYCLE (Any Age)**

Bicycling is the path to independence – from your first ride to the time you organize your own ride or event. Each booklet contains activities for two years. Complete seven bicycle achievement program activities each year; complete each level within two years; and complete all steps of the planning guide learning experience.

*Bicycling for Fun* (Bicycle 1) teaches you the essentials for getting started safely, exploring road rules and planning a bike ride.

Through *Wheels in Motion* (Bicycle 2), you will practice bike maintenance, road rules and advanced riding skills.

**ELECTRIC EXCITEMENT (Any Age)**

The electric energy series will energize and electrify you as you build burglar alarms; learn how to select a good stereo; and explore the magic of electric circuits, magnetism, motors and electronics. Each booklet contains activities for three years. Complete seven electricity achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in at least two leadership experiences each year.

*Magic of Electricity* (Electricity 1) explores why certain things insulate from electricity better than others, the effect that magnetism has on various substances, how to build a flashlight, how to build and test a compass, and how to build an electromagnet and electric motor. Decoding circuit diagrams, sending messages by Morse code and building three-way switches are just a few of the challenges you will face in *Investigating Electricity* (Electricity 2).

In *Investigating Electricity* (Electricity 2), you will build circuits and test voltages, and build a rocket launcher and a burglar alarm as you practice decision-making and communication skills.

In *Wired for Power* (Electricity 3), you will learn to measure electrical usage, replace electrical switches, determine electrical loads, evaluate different light bulbs and test for electrical power.

*Entering Electronics* (Electricity 4) introduces the basics of solid-state electronics and provides hands-on activities that give you practical experience in understanding modern-day electronic equipment. You will explore LEDs and SCRs, transistors and the construction of an SCR intruder alarm; learn how a diode operates and how to assemble a circuit using a transistor; and build a “blinky” flasher and an amplifier. It is recommended that you complete Electricity 1, 2 and 3 before participating in this project.

**ROCKETS AWAY (Any Age)**

Younger 4-H’ers may take this project only under the direct supervision of an adult. This project explores the basics of rocketry through a variety of hands-on experiments. You are encouraged to apply what you learn through the design, construction and launching of 2-liter bottle rockets or solid fuel rockets. Make sure to select which type of rocket you plan to build in order to receive the appropriate project book. **Exhibit:** Your constructed model rocket and record of launches.

**WOODWORKING WONDERS (Any Age)**

The woodworking series provides the opportunity to create and construct using wood and woodworking tools. From the basics of a tape measure and hammer to advanced equipment like routers and table saws, there is something for everyone. Each booklet contains activities for three years. Complete seven woodworking achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences;
and participate in the required number of project leadership experiences each year.

In Measuring Up (Woodworking 1), you will develop the skills that woodworkers use, such as measuring, squaring and cutting a board, driving nails, and using clamps and screws. It is suggested that you begin with this guide to be grounded in the basics of woodworking.

Making the Cut (Woodworking 2) is for you if you have had experience using basic hand tools, such as a hammer, hand saw or drill. You will measure, cut, sand, drill, use advanced hand and power tools, apply paint, and use bolts and staples.

Nailing It Together (Woodworking 3) is for you if you are competent with hand tools and have used power tools. You will measure angles, cut dado and rabbet joints; use a circular saw, a table saw and a radial arm saw; smooth lumber with a hand planer; and learn to sand and stain wood.

Finishing Up (Woodworking 4) is for the wood craftsman who is competent with a table saw, radial arm saw, drill press and jig saw. You will use a router, portable planer and jointer; make a blind mortise and tenon joint; make dovetail joints; and experiment with adhesives and various chemical wood strippers.

Level 1 – Youth interact with a series of tutorials and challenges within the Scratch environment. Young people can work on the activities individually, with partners, or in a guided instructional setting.

Level 2 – This book delves deeper into important principles of computer science such as generalization and modularity, and introduces some additional features of Scratch such as clones and lists. Going through this book should strengthen youth’s programming skills, help them write better programs, and provide interesting ideas for further exploration.

Level 3 – This book focuses on an interesting, powerful, and important technique from computer science called recursion. A recursive program is one which “calls itself”. In Scratch, this means using a block for the script within the very script that defines the block. Recursion makes solving many problems easier, and also allows one to do some things that would be very difficult to do without it, such as drawing intricate fractals.

NATURAL RESOURCES AND ENVIRONMENT

WILDFLOWERS

Spring Wildflowers – First Year (Intermediate)
Collect 20 spring wildflowers; make a study of 10 of these wildflowers; learn parts of a flower; label, dry, press and prepare 15 plants; learn five plants that can be used for food; use a photo for rare plants; make a seed and/or fruit collection of five spring wildflowers; and make a fresh or dried wildflower arrangement.

Exhibit: Dried specimens, seed and/or fruit collection, and fresh or dried arrangement.

Spring Wildflowers – Second and Third Year (Intermediate and Advanced). Expand on the first year’s activities. The exhibits are similar.

Summer and Fall Wildflowers – First Year (Intermediate).
Collect and identify 20 summer and fall wildflowers; study 10 of these wildflowers, answering questions found in the project book; learn parts of a flower; label, dry and press 15 plants; collect seeds and/or fruits of five summer and fall wildflowers; learn five plants that can be used for food; and make a fresh or dried flower arrangement. Exhibit: Fifteen dried specimens, collection of five seeds and/or fruit, and fresh or dried flower arrangement.

Summer and Fall Wildflowers – Second and Third Year (Intermediate and Advanced). Expand on the first year’s activities. The exhibits are similar.
ENTOMOLOGY (Any Age)

Hands-on activities will help you learn valuable life skills through insects found in the soil, on plants, in homes, on pets and in other secret places! Each booklet contains activities for three years. Complete seven entomology achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in the required number of entomology project leadership experiences each year.

Teaming with Insects – Grades 3-5 (Entomology 1) will help you learn how to make an insect collection, to look for insects, and to identify and classify insects. This is a two-year project.

In Teaming with Insects – Grades 6-8 (Entomology 2), you will develop communication skills, identify orders of insects, design insects, complete an insect collection table, plan an insect collection trip, rear meal worms, explore insect legs and collect insects with an extractor. This is a two-year project.

In Teaming with Insects – Grades 9-12 (Entomology 3), you will keep an insect journal, determine the effect of food on mealworm larvae production, test ant food preferences, conduct honeybee learning experiments, organize an insect club, use an insect key, plan a butterfly garden, record insect observations, identify insect mouth types, rear mosquitoes and make a spider web display. This is a three-year project.

TREE IDENTIFICATION (Beginner to Advanced)

This project contains activities for three years. Nearly 105 trees can be found quite easily in West Virginia forests. Another dozen species are rare. Twenty or so trees are commonly planted as shade trees. This project will help you identify our more important forest trees. Collect, identify, mount and label 20 leaves or fruits and seeds each year. Exhibit: Leaf or fruit and seed collection.

FORESTRY (Any Age)

The “Forests of Fun” curriculum opens the world of forests to youths. At every level, activities involve you in learning about trees, forests, forest ecology and human reliance on forests. Discover forest resources near home and around the world. Each booklet contains activities for three years. Complete six forestry achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in the required project leadership experiences each year.

In Follow the Path (Forestry 1), explore different types of trees and tree parts, characteristics of different forests, what forests need to grow and thrive, and the different products people get from trees and forests.

Reach for the Canopy (Forestry 2) has you taking a closer look at the inner-workings of trees, exploring forest change, learning about forest health and discovering the health benefits trees have on people.

In Explore the Deep Woods (Forestry 3), you will examine and distinguish different types of trees, look at forests on a global scale, learn to care for trees and think about how to conserve forests.

TRAPPING I (Beginner)

Identify fur-bearing animals and learn about their feeding habits, their effect on other animals, their habitats and signs of their activities. You will make plaster casts of their tracks. Exhibit: Notebook of information and plaster casts of three fur-bearers’ tracks.

BIRDS

Birds I (Beginner). Keep a list of birds you see during the year and identify at least 20 of them. Find and identify one or more birds’ nests. Complete any three of the elective activities listed in the project. Exhibit: Photos or drawings of the nests found, and photos or samples of other things made for elective activities, such as birdhouses, birdbaths, feeding stations, etc.

Birds II and III (Intermediate and Advanced). Expand on the first year’s activities. The exhibits will be similar.

FISHING FOR ADVENTURE (Any Age)

The 4-H sportfishing materials will take you on a journey that ranges from the old-time favorites of developing angling skills and creating fishing tackle to aquatic education and the dynamics of people and fish (angling, fisheries management and folkways). Each booklet contains activities for three years. Complete six sportfishing achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in at least three leadership experiences each year.

In Take the Bait (Sportfishing 1), you’ll have fun playing a fish, tying knots, casting to a target, rigging various lines, selecting tackle, identifying where the
fish are, using different baits and lures, identifying fish, cooking fish, and identifying internal and external fish parts.

Reel In the Fun (Sportfishing 2) will help you locate fishing information on the web; cast using a spinning rod, fly rod and bait casting reel; practice responsible citizenship; research fishing regulations; decorate a lure; sew a fly wallet; tie an artificial fly; and test a water sample.

You will develop leadership skills and fishing skills in Cast Into the Future (Sportfishing 3) as you take a friend fishing, demonstrate how to disassemble and reassemble a fishing reel, design and conduct a sportfishing skillathon, make artificial flies, design and craft a lure, customize tackle, build and use a kick net, respond to ethical situations and interview a professional fisherman.

**EXPLORING YOUR ENVIRONMENT (Grades 6-8)**

The “Exploring Your Environment” curriculum is part of the National 4-H Curriculum Collection and is designed for middle school-aged youth to learn about the environment. Each section of the curriculum focuses on an environmental question or issue and has a corresponding activity that allows you to jump right into real-world issues that affect your life. With this curriculum, you will complete investigations and explorations of the natural world.

Earth’s Capacity focuses on environmental stewardship and issues, such as transportation choices, waste management, composting, recycling and natural resources. This is a two-year project.

Ecosystems Services provides you with the opportunity to engage in hands-on activities that focus on our ecosystems, climate change, life cycles, ecological footprints and living a sustainable life. This is a two-year project.

**REDUCE, REUSE, RECYCLE (Any Age)**

This project gives background on the history of solid waste, its sources and the growing environmental problems associated with disposal in a landfill. Its 12 group or individual activities provide hands-on learning experiences. You will become more aware of West Virginia’s solid waste problem and become motivated to help clean our state and improve its environment. Exhibit suggestions and scoring guides are included.

**MAKE READING COME ALIVE (Grades 6 and Above)**

Teens will experience meaningful service learning. They will work with children through creative reading, art and writing activities. Exhibit suggestions and scoring guides are included.

**STEP UP TO LEADERSHIP (Intermediate to Advanced)**

This is not a traditional project. It is designed to be used by groups. Youths of all ages will share in the fun as they learn the dynamic process of leadership. Mentor guides include background information, interactive activities and real-life experiences in relationship-building, communication, group process, and planning and organizing. All activities offer a cross-cultural perspective. You can lead in many ways – at home, in clubs, in youth groups, in school and in the community. The fun continues with an interactive website to enhance learning. Complete seven leadership achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in the required number of project leadership experiences each year.

My Leadership Journal (Grades 6-8) focuses on motivation, communication, planning and organizing, teamwork, meeting manners and group process. This is not a traditional project. It is designed to be used by groups.

My Leadership Portfolio (Grades 9-12) centers on trust, support, partnerships, difficult situations and decisions. This is not a traditional project. It is designed to be used by groups.

**LEISURE AND CULTURAL EDUCATION**

**OUTDOOR ADVENTURES (Any Age)**

Welcome to the great outdoors . . . where you can experience fun and excitement as you develop caring relationships and a lifelong appreciation for the outdoors. You will progress from day hikes to overnight camping trips and finally to extended backpacking expeditions as you hike through the three activity guides. Featured are experiences related to food, shelter, Leave No Trace ethics, safety, navigation, equipment and camp management. Each booklet contains activities for three years. Complete six outdoor adventure achievement program activities each year; complete each level within three years; and complete all steps of the planning guide learning experiences each year.
**Hiking Trails** (Outdoor Adventures 1) provides the opportunity to explore the natural world around you by going on day hikes. You will learn how to pack a backpack for a safe and enjoyable day trip.

Whether you are a serious camper or just getting started, in **Camping Adventures** (Outdoor Adventures 2), you'll experience many new things. You'll be eating, sleeping and living in the outdoors on your camping trip. You will consider various types of shelters and tents, planning and packing meals, reading topographic maps, orienteering skills and keeping your campsite beautiful for future campers.

**Backpacking Expeditions** (Outdoor Adventures 3) will help prepare you for being out on the trail for an extended period. It covers clothing, tent setup, backcountry stoves, nutrition, menu planning for multiday hikes, personal hygiene and basic first aid.

**RECREATION I (Intermediate)**

Plan and direct your 4-H club in a 15-minute recreation period. Direct a group in at least three party games or folk dances. Lead four games at different times (two should be quiet games and two should be active games). Lead your club in group singing at three meetings. Develop a creative hobby. **Exhibit:** Project book.

**CULTURE**

**Exploring 4-H, Your Family, The World or The Arts (Beginner).** This project offers many choices. It can be about life in other countries, your family’s history, the early days of 4-H or a hobby. You choose.

**First year** – Select one activity. Complete the contract as a plan for the project. **Exhibit:** One item.

**Second year** – Select one or two activities and complete the contract as a plan for your project. **Exhibit:** One item.

**Third year** – Select up to three activities or elaborate on a previous activity; complete contract as a plan for project. **Exhibit:** Two items.

**Exploring 4-H, Your Family, The World or The Arts (Intermediate).**

**First year** – Select up to three activities. Select one activity and teach some aspect of it to three 4-H’ers. Write a brief statement describing the teaching session. Complete the contract as a plan for the project. **Exhibit:** One item.

**Second year** – Select up to four activities and teach at least two skills to a minimum of eight 4-H’ers. Write about the teaching sessions. Complete the contract as a plan for your project. **Exhibit:** One item.

**HEALTH AND SAFETY**

**HEALTH (Any Age)**

“Keeping Fit and Healthy” is a three-part project that promotes health, exercise and nutrition while you practice life skills of communication, problem-solving, decision-making and organizing information.

In **First Aid in Action** (Health 1), you will practice first aid skills to treat cuts, scrapes, nosebleeds and bee stings. Also, learn how to respond to someone who is choking or has broken a bone; assemble a first aid kit; and interview members of the medical profession.

**Staying Healthy** (Health 2) involves using a self-assessment tool to identify personal talent areas; exploring hygiene, nutrition and physical activities; and sharing what you discover.

**Keeping Fit** (Health 3) includes designing a personal fitness plan and tracking it using your own fitness file. Through interviews and personal experiences, you will discover the benefits of being fit.

**INDIVIDUAL AND FAMILY RESOURCES**

**MY FINANCIAL FUTURE (Grades 5-12)**

This is not a traditional project. It is designed to be used by groups. From organizing finances to learning about savings, risk management and consumer breadcrumbs, the “My Financial Future” curriculum helps middle and high school youth develop critical skills and knowledge in money management.

Participants learn about financial literacy concepts through case studies and real-life scenarios. Additional concepts covered include career planning, setting up SMART goals, managing financial records, creating spending and savings plans, choosing payment methods and managing credit.

**Beginner Youth Notebook** (Grades 5-8). This notebook guides learners as they progress through each activity. This is not a traditional project. It is designed to be used by groups. This is a one- to two-year project.

**Advanced Youth Notebook** (Grades 9-12). This notebook guides learners as they progress through each activity. This is not a traditional project. It is designed to be used by groups. This is a one- to two-year project.

**ENTREPRENEURSHIP: BE THE “E” (Intermediate to Advanced)**

This new entrepreneurship curriculum is designed to give you the knowledge, skills and mindsets to
meet the challenges of work and community in the 21st century. The booklet contains activities for nine years. Complete seven entrepreneurship achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in the required number of project leadership experiences each year.

**Love It** (Section 1) introduces you to the world of entrepreneurship – what it is, who has done it, how some famous products got started, and how to find and make business opportunities.

In **Plan It** (Section 2), you will participate in planning experiences to gain the skills needed to be a successful entrepreneur. You’ll learn about types of businesses, products and pricing, marketing, partnerships, and agreements and contracts.

**Do It** (Section 3) will encourage you to go through the process of researching and creating a business plan and starting a business. You will do market surveys; prepare budget forecasts; learn exit strategies; understand business ethics; project and control cash flows; learn the importance of satisfying the customer; and implement your business plan.

### WORKFORCE READINESS (Intermediate)

**Build Your Future** (Grades 9-12). This is not a traditional project. It is designed to be used by groups. From exploring potential jobs to starting their own business, the “Build Your Future” curriculum helps teens develop skills and knowledge in career exploration. Participants experience a variety of learning methods, such as developing a business plan, competing in a quiz bowl, creating a portfolio, analyzing case studies and discussing questions that reflect on their experiences. Nine engaging activities provide a fun structure to help teens learn about their choices, make important connections and plan successful and meaningful careers.

**Youth Notebook.** From exploring potential jobs to starting their own business, the “Build Your Future” curriculum helps groups of teens develop skills and knowledge in career exploration. This is not a traditional project. It is designed to be used by groups.

### SEWING EXPRESSIONS (Any Age)

This curriculum provides ways for you to create garments and unique costumes. Buying strategies, accessorizing, apparel design, recycling, starting a business, and the social and psychological influences of clothing are featured. Each booklet contains activities for three years. Complete seven sewing achievement program activities each year; complete each level within three years; complete all steps of the planning guide learning experiences; and participate in the required number of project leadership experiences each year.

In **Under Construction** (Sewing 1), you will practice the basics of sewing construction and learn how to make simple clothing or accessory pieces.

**Fashion Forward** (Sewing 2) helps you develop a fashion sense and the skills needed to create your unique style.

**Refine Design** (Sewing 3) focuses on fashion, your unique style, technology in sewing and careers in the textile industry.

### 4-H COOKING (Beginner to Intermediate)

The 4-H cooking series includes four levels of project manuals. The manuals provide content information, food science experiments and a variety of classic recipes that are youth-tested and youth-friendly. Each manual successively builds on the skills learned in the previous level. Members complete project activities for each level in two to three years. Select the book to use based on the skill level of the youth who will be participating in your club or group.

**4-H Cooking 101.** This project is suggested for beginner level groups. Members learn the basic skills of food preparation, selection, safety and science. This is a two- to three-year project.

**4-H Cooking 201.** This project is suggested for intermediate level groups. Members expand their basic skills with a focus on whole grains, quick breads, handling and preparing meat, food safety, and preparing sauces, cream soups and gravy. This is a two- to three-year project.

**4-H Cooking 301.** This project is suggested for intermediate to advanced level groups. Members plan and prepare food for a party, learn how to make yeast breads and rolls, bake shortened cakes, cook with slow cookers and prepare food on a grill. This is a two- to three-year project.

**4-H Cooking 401.** This project is suggested for advanced level groups. Members prepare ethnic foods, bake flatbreads and ethnic breads, make candy, bake pastries, bake foam cakes, use dry- and moist-heat cooking methods, and plan and prepare celebration meals. This is a two- to three-year project.
Personal Development Program (Not Project)  
**Charting (Advanced).** This personal development program is for you if you are in ninth grade or above; the materials may be used for one year or more. You are eligible for a pin when you have (1) completed the 10th grade; (2) completed two years of 4-H membership (including year[s] of involvement in Charting); (3) completed the 4-H Charting book, and (4) participated in at least one of the following: (a) Charting class at county camp plus interview, (b) weekend Charting camp plus interview or (c) three Charting sessions plus interview.

### COMMUNICATION ARTS AND SCIENCES

#### PHOTOGRAPHY (Intermediate)

This curriculum will help you understand the basics of photography, and then apply your skills and build on them to master more sophisticated techniques and take even better photos. **Focus on Photography** (Photography 1) covers equipment basics, taking sharper pictures, lighting and flash, photo composition, sequencing and evaluating photographs. **Controlling the Image** (Photography 2) explores depth of field, aperture and shutter speeds, hard and soft lighting, silhouettes and flash techniques. You’ll also learn to evaluate composition using the Rule of Thirds, the Golden Triangle and the Golden Rectangle; to use different viewpoints; and to understand positive and negative space.

In **Mastering Photography** (Photography 3), you will understand the use of wide-angle and telephoto lenses, filters and special film, light meters, different light sources, and natural and artificial lighting for effect. You will also learn to shoot reflections, still lifes, formal and informal portraits, and pictures with a purpose. Also you’ll understand framing and viewpoints, symmetry, patterns and texture, and color composition.

#### 4-H NEWS REPORTER (Intermediate to Advanced)

Make appointments with the newspapers, radio and television stations in your county to find out how to report your club’s news. Follow their instructions and write news releases. Complete the project record form. **Exhibit:** In loose-leaf, 8 1/2” x 11” notebook, write about each media visit. Add examples of your news stories and published clippings. List stations and dates of your radio or TV news coverage and explain it.

#### MISCELLANEOUS

**THIS IS 4-H (Any Age)**

This project deals with basic 4-H program activities. Through puzzles, games and riddles, you will learn the history of 4-H, pledge, song and more. **Exhibit one of the following:** A 4-H scrapbook or a three-dimensional clover.

**4-H PHILOSOPHY AND TRADITIONS (Intermediate to Advanced)**

This project provides an opportunity for older 4-H members or new leaders to learn more about the 4-H program, philosophy and traditions. **Exhibit one of the following:** A 4-H scrapbook, clover art, your 4-H timeline.

**MY FAVORITE THINGS (Creating Personal Collections)**

Are you interested in creating a personal collection? Want to take a collection you already have to the next level? Learn about various types of collections, the ins and outs of the collecting process, and how to best display your items.

**SELF-DETERMINED (I Decide)**

This is a guide for writing your own project. It is designed for older 4-H members who wish to learn more about a subject than is possible in offered projects. You can also use it to explore a subject in which no project is available. **Exhibit:** Determined by you, Extension agent and leader at the time the project outline is prepared.

[West Virginia University Extension Service 4-H Youth Development](https://extension.wvu.edu/youth-family/4h/forms)