

EXPLORING 4-H IN VIRGINIA



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no. 382-519
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This publication has been prepared by
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The author thanks the Virginia
Chapter of the 4-H All Stars
whose members reviewed the
material in use and suggested
changes that have been used in
this publication. The author
also thanks the specialists, field
staff, and volunteers who
provided suggestions and
contributions.

EXPLORING 4-H IN VIRGINIA

GETTING STARTED

Welcome to 4-H! Four-H is for all boys and girls between the ages of 9-19. Four-H is the largest youth organization in the world.

After you become a member of 4-H, you may be in a club within your community, within your school, or, if you live where you cannot participate in either, you may be a lone member. Whether you are a member by yourself or within a club, you will choose from approximately 160 different interest areas. All these areas are listed later on in this book for your review.

You will be working with someone in your club who is serving as a volunteer leader. This person will provide you with the help you need in understanding 4-H and the area you have chosen to study. If you are in a school club, the teacher may be serving as your leader. Also, there are other volunteers who come into the school program to work primarily with the 4-H clubs.

Once you become a 4-H'er, you will be introduced to the person who can provide you with the appropriate help to complete your interest in 4-H.

Projects Available

Following are eight samples of 4-H study areas. There are only eight areas mentioned because 4-H in Virginia is divided into the following eight areas: Animal, Plant, and Soil Science; Creative and Performing Arts; Economics, Jobs, and Careers; Environment and Natural Resources; Health and Safety; Home and Family Resources;

Leadership, Citizenship Education, and Community Development; and Mechanical Science and Energy.

EXPLORING ANIMAL, PLANT, AND SOIL SCIENCE

In this program area of Virginia 4-H you have the opportunity to study all projects in beef, dairy, dog, horse, meats, poultry, rabbit, sheep, swine, veterinary science, community beautification, plants and soil, strawberries, sweet potatoes, and vegetable gardening.

Gardening

Gardening can be fun. In the Virginia 4-H Gardening project there are units for the beginner or the advanced gardener. In addition, there are leaflets recently produced for use in promoting urban gardening. For the purpose of this introduction, we will use one exercise from one of those leaflets. This little exercise is in the form of a game.

This is one of the many areas available in animal, plant, and soil science. Please contact your extension agent or volunteer leader for more information on 4-H Animal, Plant, and Soil, Science projects.

ACROSS

DOWN

1

2

3

4

5

6

7

8

9

4-H Vegetable Harvest Cross Word

EXPLORING THE CREATIVE AND PERFORMING ARTS

There are lots of areas of interest in Creative and Performing Arts in your Virginia 4-H program. They are the 4-H Ambassador Program, Photography, Public Speaking, and Share-the-Fun. In the Ambassador's Program, older 4-H'ers are selected for spreading the news of 4-H to organizations throughout the state. The photography program teaches 4-H members how to take pictures, care for their equipment, and study other areas of photography. The public speaking program teaches young people how to "stand on their own two feet and get their ideas across to someone else." This is closely related to presentations and judging which are important parts of 4-H. The Share-the-Fun program is designed for 4-H'ers to develop poise and confidence through dancing, playing musical instruments, drama, and general presentations. In Share-the-Fun, 4-H'ers learn to develop skills in show production and they learn creative expression. Share-the-Fun is for all 4-H'ers regardless of age and is one of the bigger programs in Virginia. 4-H'ers entertain enthusiastic audiences in their home areas and at special occasions throughout the state. One example is the Share-the-Fun program at the State Fair. Here, 4-H'ers perform three or four times per day for ten days. Virginia 4-H'ers have also performed at Kings Dominion.

For the sake of this publication we are going to discuss briefly photography as one of the creative and



performing arts, and Share-the-Fun as another.

Photography

Pictures, pictures, pictures, that's what the 4-H Photography program is about—taking and making pictures with a camera.

We all love outdoor adventure. So, why not explore nature with a camera? Swimming, hiking, camping, cooking a meal in the open, looking for birds, flowers, or insects are just a few of the many outdoor adventures. You can explore the outdoors on field trips where you can see, hear, and understand some of the wonders of nature. Take a camera with you on trips so you can take pictures of the interesting things you see.

Exploring Nature With a Camera

Before you go out with your camera, be sure to have someone show you how to use it. You need to know how to hold the camera, how to use the viewfinder, and how to release the shutter.

On your field trips observe the beauty of nature. Make a list of some of nature's wonders that you want to photograph.

Make a list of some things with interesting shapes or colors you want to photograph.

Before you take your pictures, think about what makes up the scene and what objects you want to get in your pictures.

Be sure you include some pictures of the projects you complete this year. Include them in your project report.

If you select photography for your project, you will learn how a camera operates and how to take better pictures.

Share-the-Fun

Have you ever daydreamed about being a rock star or a movie star? Do you like to sing, dance, play the piano? These are some of the ways you can “show off” your talents through the Share-the-Fun Show.

The highlight of the 4-H Performing Arts program is a 4-H Share-the-Fun Show. This is where boys and girls share their talents and fun with an audience.

Types of acts you can do include:

- 1) Singing a song
- 2) Playing a musical instrument (piano, drums, horn, etc.)
- 3) Doing a dance (tap, modern jazz, ballet, etc.)
- 4) Acting out a dramatic part from a play
- 5) Doing magic acts, juggling, tumbling, or clowning

Work the crossword puzzle while you think about your Share-the-Fun act:

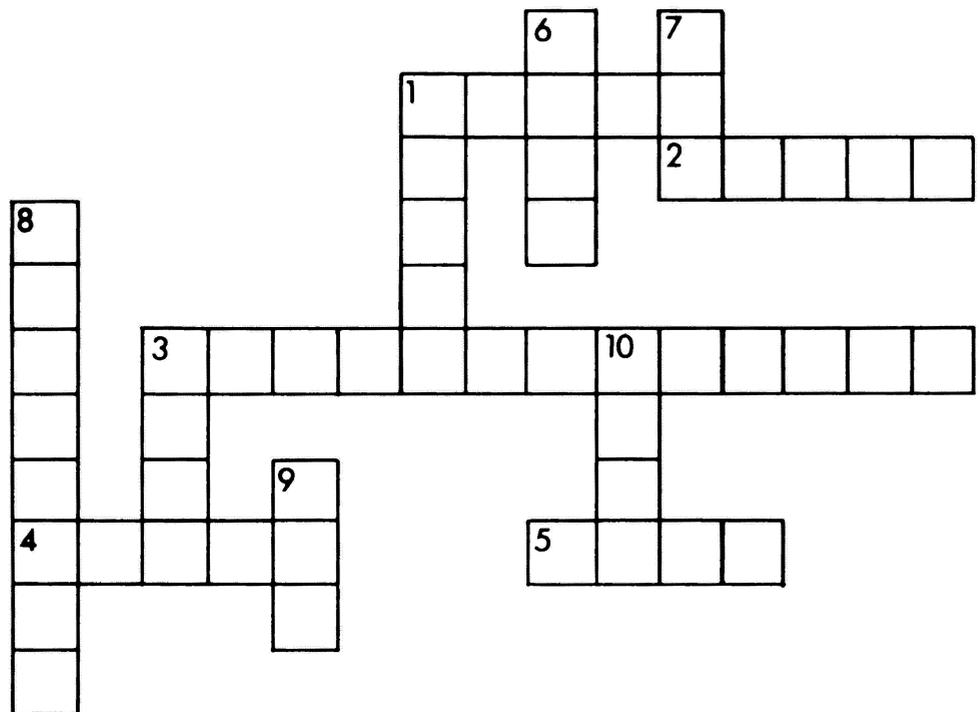
Across

1. A serious play
2. An instrument you play
3. 4-H Performing Arts project
4. _____ trick
5. What you sing

Down

1. Move to music
3. You _____ a song
6. A lively type dance
7. The sound a hammer makes— also a type of dance
8. What you wear in a play
9. Short performance
10. An instrument you blow

* * * * *



For additional help with any of these creative and performing arts projects, call your 4-H leader or Extension agent.

EXPLORING ECONOMICS, JOBS, AND CAREERS

Of the projects and activities involved in this component area, you have the opportunity in Virginia 4-H to study commodity marketing, starting a business, business management programs, food science and technology, and pursuing certain careers. For our project let's discuss the food industry and having fun with careers.

The 4-H food project in Virginia is called, "Food Industry—Dare To Discover." This is a relatively new project in Virginia and was one of the first food science and technology projects in the United States. This is designed as an experimental project.

Food Industry—Dare To Discover

Are you aware that the food industry is the largest industry in the world? The food industry is concerned with food production, processing, packaging, distribution, product development, and other related areas. As a 4-H'er participating in this project, you may choose to learn about one or more aspects of the industry. You could have the opportunity to study food from the time it is being produced till it is consumed.

Project Objectives

1. Encourage 4-H'ers to be curious about food.
2. Increase interest in the food industry.
3. Provide an opportunity for 4-H'ers to plan and carry out projects in food science.

4. Introduce 4-H'ers to careers in food science and technology.
5. Help develop a greater understanding of problems related to the food industry.
6. Increase knowledge of the history of food processing.

Suggested Activities

1. Tour a food processing facility.
List food processing facilities in your area.

2. Study some food being processed and learn how it is handled to the point of a customer buying it.
3. Design and conduct some type of a food processing experiment.
4. Design and build a food display.
5. Discover the historical background of some foods.
6. List some activities that you would be interested in doing in food science.

Let's Study How Food is Processed

There are many interesting details and processing of food. Let's look at what "process" means. It means the steps involved in processing food from the time it is raw until the product is finished. Some examples you may be familiar with are studying the process from milk to cottage cheese or the hog carcass to pork sausage or, further still, cabbage to saurkraut. Many 4-H'ers have enjoyed apple cider as a refreshment during a 4-H club meeting, but how many have ever wondered about the process from the raw apple to cider.

Many supermarkets have "deli shops" which produce food items from within the store. It might be interesting to visit a "deli shop."



Other Areas of Interest In Food Science and Technology

You've just studied a few elementary items that you might do in the food science program. In addition to those mentioned you might want to do the following.

1. Make a display (or give a presentation).
2. Learn to read a food label.
3. Study some historical foods.
4. Plan a tour for your 4-H club.

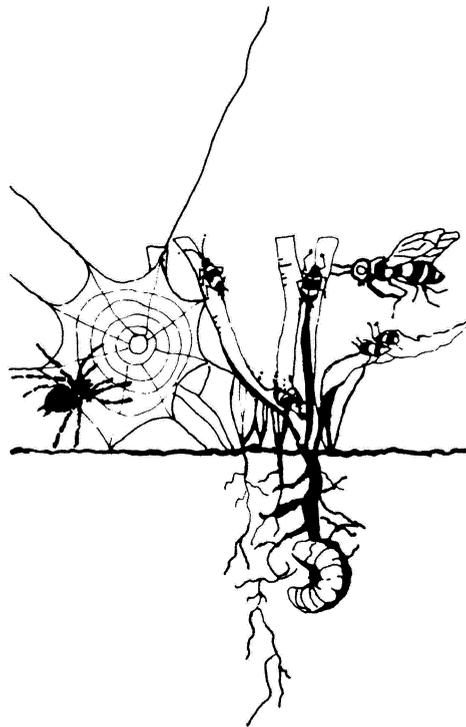
Work with your Extension agent or volunteer leader in the other project areas available in economics, jobs, and careers.

Have Fun With Careers

As a first year 4-H'er, you may not have been thinking about a career but you have probably been asked, "What are you going to be when you grow up?". Write your answer in the following blank

Perhaps your answer is different now than it would have been earlier. This is okay. Four-H'ers are encouraged to select 4-H projects that are of interest to them, and perhaps this will make you think about a career.

A good game for a 4-H meeting would be to come to the 4-H meeting dressed to represent a particular career. An example might be a policeman's uniform. At this particular 4-H meeting, tell what career or job each 4-H'er represents and why they picked this. You might find this very interesting.



EXPLORING THE ENVIRONMENT AND NATURAL RESOURCES

This area in Virginia 4-H programs covers marine science, entomology, fishing, forestry, conservation, and wildlife. For this publication, we will review some interesting parts of the entomology project. For the beginning program, you may study "Adventures with Insects", and, when you have advanced, you may study "Exploring the Curious World of Insects."

Can you answer these questions?

1. Insects have many different shapes, but how are they all alike?

2. How many legs does an insect have? _____
3. Do all insects have wings?
4. What is the purpose of the antennae (ăn•tên•á)?

5. Should we kill insects whenever we can? _____
6. How many insects can you name? _____

7. Can you find a larvae (worm)? We might call this a baby insect.
 Now, have fun playing the bug game. Then explore with the ant exercise.

THE BUG GAME

Do all insects fly? _____
 How many legs does an insect have? _____
 Are spiders and ticks insects?

How many legs does a tick have? _____
 How many of these insects can you name?

How many of these are not insects?

Another Thing to Do:

- A. Find a colony of ants. Sit down and watch them for a while. Drop an insect or a piece of food near them. At the next meeting, report what you saw.

1. Tell what you saw:

2. Do ants have much strength compared to their size? _____
 How do you know? _____

3. Do they get along without fighting? _____
 4. Will they bite you? _____
 5. Dig into an ant hill about three inches. What do you see? _____

Do you find ant eggs?
 _____ Pupae (pū pä)

B. Find some plant lice (aphids) (ā' fid) on the grass or on a tree leaf. Are there also ants nearby? Some kinds of ants keep aphids much like farmers keep cows. They get honeydew from them and care for the aphids.

If you like the study of insects, please contact your Extension agent or volunteer leader for other entomology projects plus many more 4-H projects about our environment and natural resources.

EXPLORING HEALTH AND SAFETY

In studying 4-H, the fourth H is for Health. Also, the 4-H pledge has the statement, "I pledge my Health to better living," which indicates the study of health is important to 4-H.

Health

The study of Health in 4-H will help you in many ways. You may learn

1. How you and your family can look and feel better.
2. The meaning of health and happiness.
3. Many fun things to do in the area of health.



Boys and girls have lots of good reasons for wanting to keep well. List five reasons why you want to be healthy.

I want to be healthy so I:

1. _____
2. _____
3. _____
4. _____
5. _____

Discuss this with your friends and compare your reasons.

What are the outward signs of good health? In your Virginia 4-H health project there are 10 listed. In this introductory project, let's discuss four. They are: expression, attitude, energy, and eyes.

Outward Signs of Good Health—
 The Way I AM

EXPRESSION:

Smiling, alert and happy

ATTITUDE:

Friendly and willing to take part in activities.

ENERGY: Plenty of energy for both work and play, do not tire easily.

EYES: Bright and clear, no dark circles, no red, glasses if needed.

Did you find some areas you need to work on? Select one area you wish to improve. Make a game out of it. Begin by:

1. Finding out all you can about ways to improve.
2. Deciding on the improvement you want to make.
3. Making a plan.
4. Taking action.

Exercise for Fitness

Your body contains more than 600 muscles. By the time you are 12 years old, your body is more than one-third muscle. To be strong, these muscles must be exercised.

List exercises you enjoy

How often do you do these exercises?

Happiness and health are linked together. Your emotional health depends upon how you feel about yourself as well as others. A healthy personality is made up of certain personal traits. Some of those traits are: loyalty, sportsmanship, and dependability. There are many more, perhaps you can name some. There are many more parts to your own personal health. Such as studying about bones, teeth, ears, eyes, appropriate foods, and first aid. Check with your volunteer leader or Extension agent for deeper study into these 4-H health projects.

Safety

You prevent accidents! You have often watched your mother prepare a meal or make a dessert. She is very careful around the range, keeping materials that burn away from the burners. You may have thought your mother was being cross when she asked you to step out of her way or take your little brother or sister out of the kitchen. Your mother was doing this so you wouldn't get burned by boiling water, hot soup, or a



freshly baked cake. If you have younger brothers or sisters, your mother also keeps knives and sharp forks out of their reach.

Can you think of other ways to prevent accidents? List them.

1. _____

2. _____

3. _____

4. _____

In case of a fire or an accident we need help quickly. Can you answer the following questions?

1. Whom would you call in case of fire? _____

What is the telephone number? _____

What message would you give? _____

2. Whom would you call in case of a bad accident or serious sickness? _____

What is the telephone number _____

What message would you give? _____

3. Do you have a first-aid kit in your home? _____

What items are in your first-aid kit? _____

Your Virginia 4-H Safety project contains other very good information about safety with animals, with bicycles, working with chemicals, hazards around the house, firefighting, playing safe, and other safety events.

Contact your volunteer leader or Extension agent for further information on 4-H safety.

EXPLORING HOME AND FAMILY RESOURCES

In Virginia 4-H programs, you have the opportunity to study clothing and textiles, consumer education, family life education, food and nutrition, home environment, home management, money management, and the Wilderness Challenge program.

For this publication, we will briefly review two areas. They are: Home Environment — Your Space for Living, and Sewing for Fun I.

Please follow the instructions on the home environment section and fill in all the blanks.

Home Environment-Your Space for Living

It's the project that shows boys and girls how to make whatever living space they have most useful.

Your space can be in the city, in a town or village or a farm.

Wherever you live, home environment will help you find fun things to make and do.

Your project could be just one corner or shelf or drawer in a room you share with others, or it could be the chance to create a whole room of your own, or to help the family with changes they all want to make.

Many experiences do not require the use of money; just lots of imagination and energy.

Look Around You

What colors do you see? _____

Do you like to see a room so cheerful and inviting that it makes you feel that way too?

Do you like to move things around? _____

Do you like to make things?

Do you like to fix and repair?

Home Environment - Your Space for Living will give you a chance to explore. The experiences stretch your imagination and increase your feelings to what you see and choices you make for your space.

Would you like a space all your own? _____

Do you need a place to put your things? _____

Would you like a room that is easy to keep? _____

Do you want to have friends in? _____

Where do you store your hobbies? _____

Is there a place to study and write? _____

Would you say your space looks happy, sad, sunny, colorful, cheerful and inviting?

In getting started, do some thinking:

What do you need? _____

What do you want?

(These you might want to wait a while for.)

A place to start:

The shipshape closet-

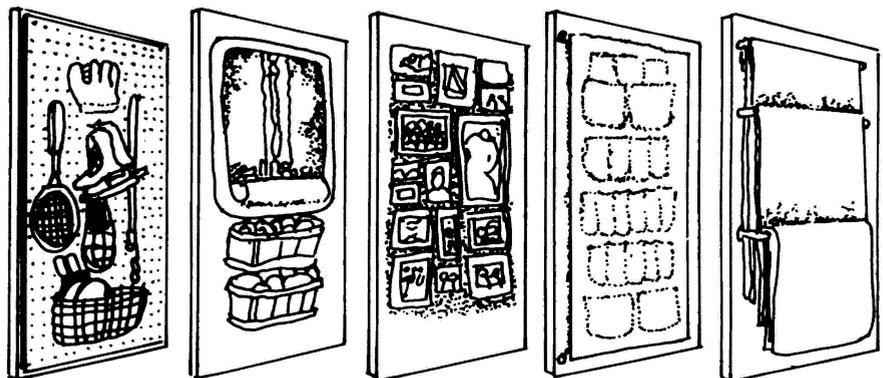
*weedout

*if you haven't used something in years consider giving it away

*box things for other space

Here are some hang-ups to cultivate:

Behind closet doors: Five storage plans. Left to right: pegboard sports center; dressing depot—tray under mirror holds brushes, cosmetics; picture gallery; a pocket for everything sewn on a sheet; towel rods for wrinkle-free tablecloths.



Plan What you Would Like to Do in Your Space For Living

If you select Home Environment - Your Space for Living, you will make color work for you; learn how to use paper, plastic, and fabric; and work with simple tools. You will also make an idea booklet

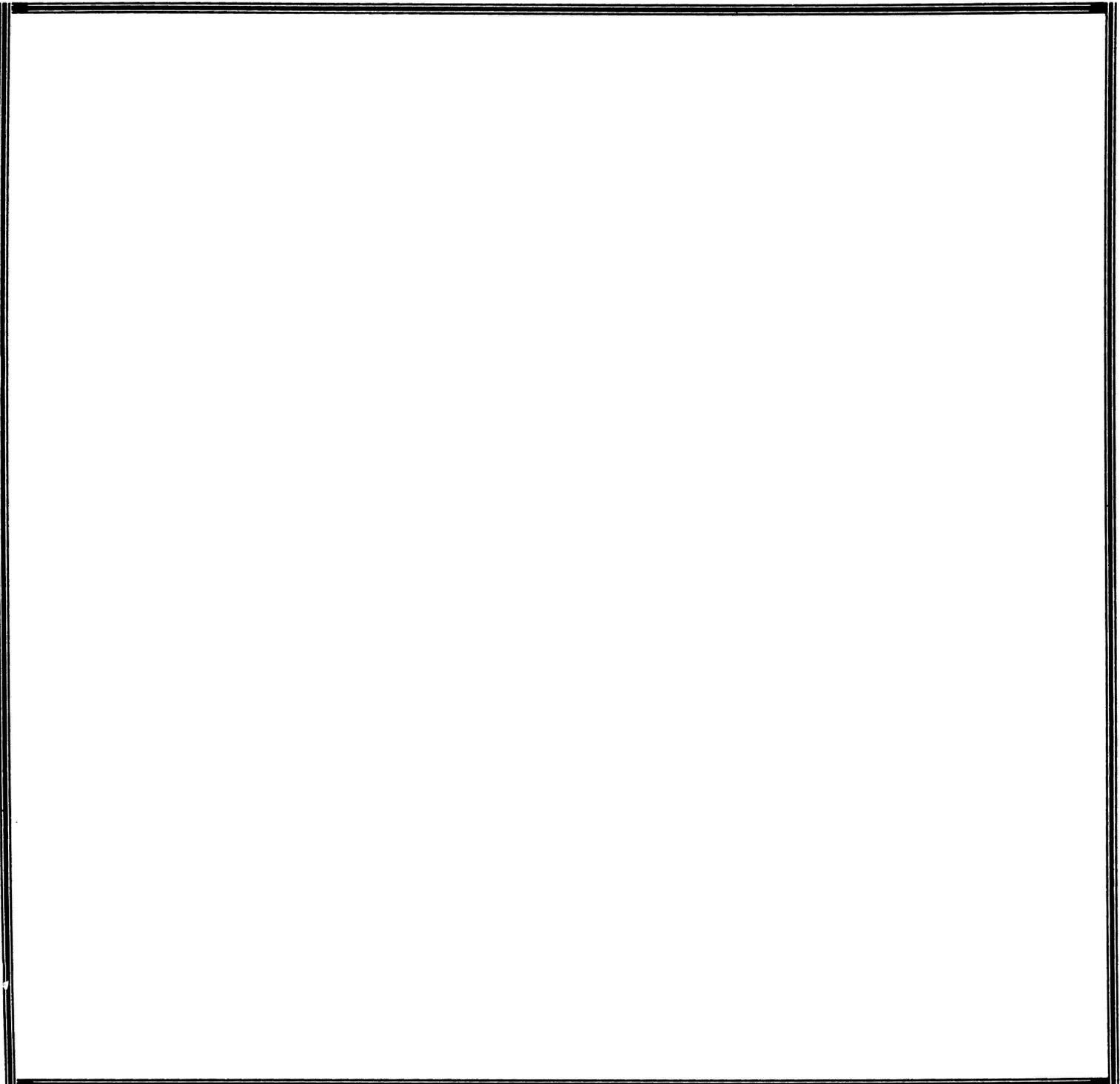
to show what you have learned and done in the project.

Clothing and Textiles

The 4-H clothing skills checklist is designed to help you with your introduction to sewing. In addition, you will see a list of items which can be constructed by you.

The Home Environment and clothing construction projects discussed here are only a part of those available to you in 4-H. Contact your volunteer leader or your Extension agent for more information on these two projects and others in the area of home and family resources.

USE SPACE BELOW TO DRAW YOUR OWN IDEAS OF YOUR SPACE FOR LIVING.



SEWING FOR FUN 1

4-H CLOTHING CONSTRUCTION SKILLS CHECKLIST SEWING FOR FUN 1

Sewing Tools, identify and use

- Scissors and shears
- Pins and pincushion
- Thimble
- Needles
- Measuring tools, ruler, tape
- Sewing Machine**, be able to
- Name parts of machine
- Thread machine
- Fill and insert bobbin
- Change machine needle
- Recognize good stitching
- Control speed
- Control fabric when stitching
- Regular stitch
- Backstitch
- Baste stitch
- Zigzag stitch (if your machine does this)
- Use seam guide on machine
- Pivot
- Use good habits: bright light, good posture, use wastebasket put away tools

Fabric Knowledge, recognize

- Differences between knits and wovens
- Solid fabric
- Print fabric
- Stripe fabric
- Plaid fabric
- Lengthwise grain
- Crosswise grain
- Bias
- Selvage

Good choice for pattern

Matching thread

Construction, be able to

- Pretreat fabric
- Lay out pattern, if using one
- Press seams
- Final press
- Fringe fabric edge
- Machine sewing: sew straight seams
- sew square corners

- sew curved seams
- use plain finish on seams
- use zigzag finish on seams
- backstitch at the ends
- trim seams
- sew casing for elastic
- machine hem

Hand sewing: hand baste

- tie a knot
- use a thimble

Care

- Sew in care labels
- Replace buttons
- Repair broken seams

Additional Skills Learned list:

Check your sewing skills then plan the things you want to make. Begin with something simple. The more items you make, the more you will learn. Choose from the list below or use your own ideas. Family magazines and pattern books have ideas for items you can make. Your leader or parents may also have some suggestions.

- marble bag
- book bag
- tote bag
- tool kit case
- pincushion
- needle case
- eyeglass case
- potholder
- barbecue or oven mitt
- placemat
- dresser scarf
- simple stuffed toy
- pillow
- apron
- necktie
- slippers
- belt
- purse
- back pack

- bike bag
- tennis racket cover
- golf club headcover
- pop-over skirt, any length
- pop-over top
- poncho
- halter top
- simple patchwork

EXPLORING LEADERSHIP, CITIZENSHIP EDUCATION, AND COMMUNITY DEVELOPMENT

The project areas under this heading include leadership, exploring Virginia 4-H, citizenship, international intrigue, and community resource development.

For the purpose of this publication, we will review Unit I of "Exploring Citizenship." The title of this unit is, "Me, My Family, and My Friends".

In this project you will learn.

1. What is good citizenship.
2. More about yourself.
3. More about your family.
4. More about your friends.

Citizenship is how we talk and act about each other. Also, how we think and feel about each other. It is our relationship with other people. Good citizenship is showing concern for ourselves and others. A good citizen treats others as he or she would like to be treated. Ask yourself the following questions:

1. Do I think of safety for myself and others before I do something? Yes___ No___

2. Do I consider other people's feelings before I say or do something that may hurt them? Yes___ No___

3. Do I accept other people who are different from me and try to make friends with them? Yes___ No___

Getting to know yourself as your best friend is an important part of citizenship. Do you know yourself really well? What do you really know about your health? Check the following blanks. I believe my health is:
 excellent _____
 good _____
 bad _____
 poor _____

After you have checked the items above, sit down with someone in your family and find out more about your

health. Do you have any allergies? Do you have any special health needs.

What are the favorite things you like to do? Answer the following.

Of all the places I have been, I like _____ the best because _____

If I could go anywhere in the world, I would go to _____.

My favorite animal is _____.
 My second favorite is _____.

You could ask yourself more questions about movies, music, sports, animals, foods, people. Make a game of this and work with a friend.

What do you know about your family? The following word game has 21 items you can get from your family. All words go across or down. Can you find them all?

L	O	V	E	B	G	C	K	I	N	D	N	E	S	S
N	D	H	E	L	P	S	M	O	N	E	Y	X	H	T
R	U	L	E	S	R	T	V	A	L	U	E	S	A	A
B	D	F	C	L	O	T	H	E	S	B	F	G	R	N
T	O	Y	S	B	T	F	O	O	D	H	B	C	I	D
G	I	F	T	S	E	B	M	P	R	T	F	U	N	A
C	D	L	M	N	C	V	E	C	A	R	E	B	G	R
B	T	R	U	S	T	T	R	A	I	N	I	N	G	D
D	G	F	T	C	I	S	U	P	P	O	R	T	B	S
C	H	J	L	C	O	M	F	O	R	T	X	B	C	X
D	B	D	N	S	N	S	E	C	U	R	I	T	Y	N

CAN YOU THINK OF OTHER IMPORTANT THINGS YOU GET FROM YOUR FAMILY? WRITE THEM HERE.

ANSWERS TO THE FAMILY WORD GAME

- LOVE
- KINDNESS
- HELP
- MONEY
- RULES
- VALUES
- CLOTHES
- TOYS
- FOOD
- GIFTS
- FUN
- CARE
- TRUST
- TRAINING
- SUPPORT
- COMFORT
- SECURITY
- PROTECTION
- HOME
- SHARING
- STANDARDS

You have just completed parts of Unit 1 in Virginia 4-H Citizenship project. For more citizenship information, talk with your volunteer leader or your Extension agent.

EXPLORING 4-H MECHANICAL SCIENCE AND ENERGY

Virginia 4-H'ers have the opportunity to study automotive care and safety, bicycle care and safety, electric/energy, petroleum power, woodworking, and 4-H computer education.

Virginia is fortunate to have a lot of electric suppliers supporting the 4-H electric/energy program with many related activities.

The study you'll be making is part of Electro I, Virginia 4-H project.

Welcome to Electro I

CONGRATULATIONS! You are beginning a 4-H adventure into a wide, wired world of electricity. No one knows exactly what electricity is. We do know, when we stop to think about it, that it is all around us all the time.

We know that electricity is a part of nature, because all of us have seen lightning. We know that it is in the mysterious power of magnets. We can feel it as "static" electricity when we slide across an automobile seat and touch the door handle.

We cannot see it, or hold it in our hands, or smell it, but it is always ready to serve us. At the "flip of a switch" it goes to work to do many different jobs to help us in our everyday living.

HERE ARE SOME OF THE THINGS YOU CAN LEARN IN THIS PROJECT:

1. Electricity is Power for Work and Fun.
2. Electricity is Light for Seeing.
3. Electricity is Heat.
4. Electricity is Cooling.
5. Electricity is Magnetism.
6. Electricity is Friendly and Helpful when Treated Safely.

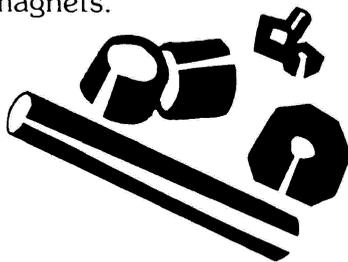
HERE ARE SOME OF THE THINGS YOU CAN DO IN THIS PROJECT:

- Make posters.
- Give demonstrations.
- Go on tours and trips.
- Perform electrical experiments.

Let's Explore Magnetism

Magnets are made in different shapes, sizes, and strengths. Those we see most often are straight or bent like a horseshoe. All of them have a north pole and a south pole.

Someone found that when a natural magnet is stroked with a piece of iron, then the iron itself becomes a magnet. Iron does not hold its magnetism very long. Magnets made of steel hold their magnetism for a long time. Magnets such as these are called "permanent" magnets.



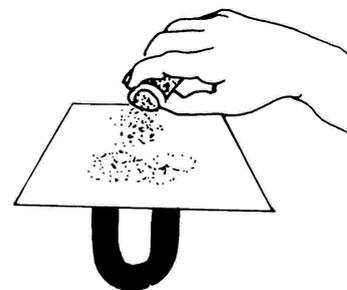
The greatest strength of a magnet is at two points. These points are usually at the ends

of the magnet. These points are called the "poles" of the magnet. One is called the "north pole" of the magnet. The other is called the "south pole". The north pole is at the end of the magnet which points north when the magnet swings freely. The south pole is at the other end.

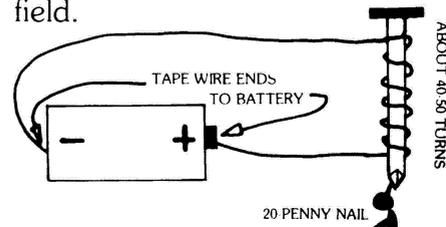
"See" a Magnetic Field

Cover a permanent magnet with cardboard or paper. Sprinkle iron filings on the paper. Tap the paper and note the pattern formed. Strings or lines of filings pass from one pole of the magnet to the other. The area covered by the filings is the center of the magnetic field.

This magnetic field is one of the important things in our everyday life with electricity. If it were not for the magnetic



field, we would not have electric motors. Telephones, radios, television, and many other things we use every day also depend on this magnetic field.



Make an Electro-Magnet

You can make magnetism work for you by winding several turns of insulated wire around one or more large nails or spikes (soft iron).

Connect one end of the wire to the battery. Touch the other end of the wire to the other terminal for a few seconds and see how many tacks you can pick up. Repeat the experiment using as many turns as possible. How many more tacks were you able to pick up?

You have made what we call an electromagnet. When you disconnect the wire, the tacks fall off. This is one of the advantages of an electromagnet. We can turn magnetism on and off as we wish. Picture a crane operator throwing the switch and picking up scrap iron and steel. Then he opens the switch to drop the scrap metals.

Soft iron can be magnetized easily as you have just seen, but loses its magnetism in a short time. Steel is harder to magnetize but holds its magnetism almost indefinitely.

Complete the List Below:

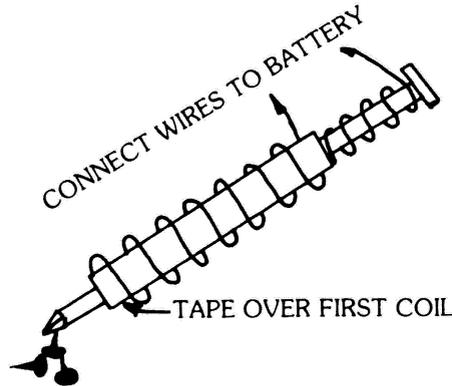
Things the electromagnet will pick up

Things the electromagnet will not pick up

Now, disconnect the battery. Does the magnet still work?

For How Long?

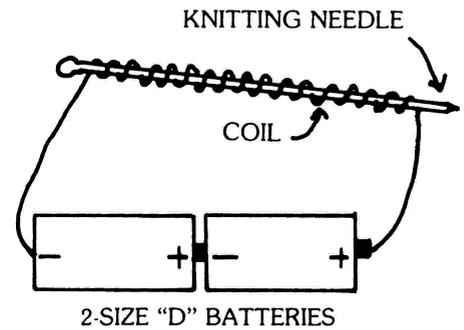
Next, with the same continuous piece of wire, wrap another coil of equal number of turns, and in the same direction, on top of the first coil. Hint: It may be easier to wrap the second coil if you tape down the first coil



How many more objects will the magnet with the two coils pick up?

Make a Permanent Magnet

Wrap the insulated bell wire around a steel knitting needle. The wire should be wrapped the full length of the needle. One end of the wire is connected to the battery. The other end of the wire is then touched for just a few seconds to the other terminal. This should make the needle into a permanent bar magnet. If you did not get results, try two batteries in series, wind more turns of wire on the needle, and leave it connected a little longer. Do the same thing with a second knitting needle. In the same way, you can magnetize a screwdriver so that you can use it to pick up and hold steel screws. Don't do it unless you want your screwdriver to be magnetized.

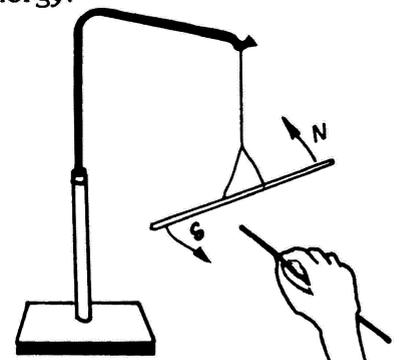


See How They Attract and Repel

Take one of the magnetized needles and hang it with a thread. A thread stirrup will help keep it level. Be sure it is not near other large pieces of steel. Watch the needle. Does it settle down, pointing in one direction? If it does, you have made a compass. The tip of the needle pointing north is called the "north pole" (north-seeking pole). The other end is called the "south pole". Mark the north poles of both needles with red fingernail polish.

Touch the north pole of the hanging needle with the north pole of the other needle. What happens? Now touch the south pole of the hanging needle with the north pole of the other needle. What happens? You see, like poles always repel each other; unlike poles always attract each other.

Contact your Extension agent or your volunteer leader for further information in the area of mechanical science and energy.



4-H FUNDAMENTALS

Become familiar with the following fundamentals. They will be used as long as you participate in 4-H.

The 4-H Emblem

The 4-H emblem is a green four-leaf clover on a white back-ground with white H's showing through. Green stands for life and growth; white is for purity. The H's stand for Head, Heart, Hands, and Health. The clover emblem is international.

The 4-H Pledge

The 4-H pledge is:

"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."

It is important that all members learn the proper way to present this pledge and the pledge to the American flag.

The 4-H Motto

The 4-H motto is, "To Make the Best Better." It means that you should strive to improve your own record and help others to make their best better.

4-H Project

A 4-H project is one or more planned "learn by doing" tasks. Each is outlined and explained in a publication that contains what is to be learned, worksheets or guides to make learning easy and enjoyable, and a place to record what

you have learned. There are more than 130 project areas of your choice.

This publication, "Exploring 4-H in Virginia", is designed especially for beginning 4-H'ers. By participating in a project, 4-H'ers learn to work with others, explore new areas, and practice the principle of "learning by doing." There are different types of projects such as individual, group, and special interest.

The 4-H Presentation

A presentation is showing and telling others how to do something. As a result of doing the tasks listed in your project, you will learn how to do a job—then you should show others. Your volunteer 4-H leader or Extension agent can help you prepare and give a presentation.

Share-the-Fun

Four-H'ers have many talents, and each club should plan at least one meeting so members have the opportunity to demonstrate their talents. In addition, there are times throughout the year, such as Halloween and Christmas, when part of the regular meeting could be devoted to "Share-the-Fun" acts.

Benefits of Membership

Four-H is a way for learning new things. You learn to select a 4-H project, study that project, and learn about it while having fun. There are 4-H recreational activities designed and conducted to make your project interesting. You make new friends. Your group may

include people from your community, and, if you're in a special project group, you will have members from other parts of your community in your group. When you participate in other 4-H activities, you will meet people from other parts of your county or city and, in some special events, your district.

4-H Leaders

A very important part of 4-H is knowing those people with whom you will be working. These are the people you most often see at 4-H club events and meetings. They are the adult leader, the 4-H member-leader, parents, and Extension agents. Their responsibilities are listed below.

Adult Leader (Volunteer)

Adult 4-H leaders volunteer their time to 4-H. They show a willingness to work with boys and girls and to help them in their 4-H careers. They may serve as advisors in helping 4-H'ers with the organization of their club or with carrying out their club programs. In addition, they may help 4-H'ers with their 4-H projects.

4-H Member Leader (Volunteer)

Your 4-H member leader is an older, experienced 4-H member serving as a leader to 4-H'ers such as yourself. This person may work with the volunteer adult leader, the Extension agent, or someone else who is assisting with your 4-H club. The teen leader may be taking a project in 4-H leadership and working in your club as part of his or her project work.

4-H Parents

Parents provide leadership and lend support to the total 4-H program. They sometimes provide transportation and meeting places for 4-H clubs. They work with the boys and girls in your club and provide support to the volunteer leader and Extension agent.

The Extension Agent

Your Extension agents are men and women who have been college-trained to work with adult leaders and 4-H members. They help design 4-H club programs based on the interests of the 4-H members.

4-H Club Meeting

One of the first learning experiences you will be actively taking part in is the 4-H club meeting. It is very important. The meeting is conducted by you and your friends who are officers of your 4-H club. The adult volunteer leaders, teen 4-H leaders, and Extension agents may assist in training you to conduct 4-H meetings. You will be asked to help in one or more ways. You will learn more and enjoy the program by taking an active part. As you progress and learn more about your club, you will discover more interesting things about 4-H.

You are expected to show interest in your club, put forth the effort necessary to complete your project, and support your fellow club members. You are also expected to conduct yourself in a way that 4-H club meetings and activities provide a meaningful experience for everyone involved.

The adult leader or the person serving as the leader of

your club will explain the local 4-H program and some of the local 4-H history to you. You will learn how many other boys and girls are in 4-H in your area, what the most popular projects are, and what area-wide 4-H activities are available. At this same time, they will be teaching you the importance of a good 4-H meeting, and you will learn about the officers of the club and the responsibilities of each.

Four-H club officers should be elected shortly after the club is organized. This will provide the person working with your meeting an opportunity to explain the responsibilities of the officers and to assist you with the election. Club officers most often consist of the president, vice president, secretary, treasurer, reporter, and the song leader(s).

Background Information

Four-H began in Virginia in 1909. Seventy-five boys in Dinwiddie and twenty-five boys in Chesterfield County formed boys' "Corn Clubs". Under the direction of Mr. T.O. Sandy, these boys conducted one-acre corn demonstrations. The next year, Miss Ella Agnew worked with forty-six girls in Halifax and Nottoway counties. These girls formed what was called, "Tomato Clubs" with each planting twenty-five tomato plants and canning the fruit from them. This first work was done on an individual basis. So, you can see, if you had been a member between 1909 and 1914, you would have been enrolled either in a Corn Club or a Tomato Club.

"Learning by Doing" has been a slogan for 4-H since it's

beginning. This is the purpose of your 4-H project. You learn about your project by doing the things that are suggested in the project book. From the early years of 4-H until the present, the 4-H program has grown steadily. Today, in Virginia, there are 175,000 4-H'ers.

Four-H is sponsored jointly by the Virginia Cooperative Extension Service, United States Department of Agriculture (USDA), Virginia State Government, and the local Governments in Virginia. Private donors provide additional program support at all levels.

Four-H is international. It is in 82 other countries throughout the world. The principles are the same throughout. In some countries, it may be 4-S where in the United States it is 4-H. Progress in 4-H begins at the individual level with the club member such as yourself. You may participate in 4-H club events, county or city-wide events, then state events. As you progress in age and experience, you may go on from the state events to national programs. All of these benefits result from doing outstanding work in your 4-H project area. There are possibilities for you as an older 4-H'er to visit other countries as part of the international (IFYE) program. Your volunteer leader or Extension agent has information on all of the state, regional, and national activities and events available to 4-H'ers.

Rewards in 4-H are many. You will be rewarded through self-satisfaction, being elected to club offices, ribbons and medals, trips to other parts of the state, and, as a senior, you

could be one of the many Virginians to win college scholarships. The rewards you earn depend on how much you put into 4-H. There are many, many activities and events available to you in 4-H.

Now that you have completed this introduction to 4-H projects, please review the various projects listed, select one (or more) of those projects and pursue it. Start on your rewarding career in 4-H.

VIRGINIA 4-H PROJECTS AVAILABLE

ANIMAL, PLANT, AND SOIL SCIENCE

Agronomy

- 111 Exploring Plants and Soils I
- 112 Plant Reproduction IIA
- 113 Soils IIB
- 114 Plant Growth Factors IIC
- 115 Plant Characteristics IID
- 116 Growing and Using Plants IIE
- 117 Practical Crop Production III
- 118 Soil Evaluation—Appreciation
- 119 Corn Production (Observation)
- 120 Bright Flue-cured Tobacco
- 121 Burley Tobacco
- 122 Dark-fired Tobacco

Beef

- 125 Beef Steer I
- 126 Beef Steer II
- 127 Beef Heifer
- 128 Cow Calf

Dairy

- 130 Dairy Calf-1
- 131 Dairy Heifer-2
- 132 Dairy Cow-3
- 133 Dairy Herd-4
- 134 Dairy Goat
- 135 Dairy Beef

Dog and Cat

- 140 Training Your Dog-1
- 141 Dog Obedience for Beginners-2
- 142 Dog Obedience for Novice-3
- 143 Grooming and Handling Dogs-4
- 144 Cat Care

18

Horse and Pony

- 150 Horse Management
- 151 Basic Horsemanship
- 152 Novice
- 153 Horseman
- 154 Horsemaster
- 155 Introduction to the Horse
- 156 Horses Are Fun
- 157 Horse Business
- 158 Mare and Foal
- 159 Self-determined Project

Horticulture-Strawberries

- 161 Strawberries for Fun and Profit
- 162 Market Production of Strawberries

Horticulture-Vegetable Garden

- 163 Vegetable Gardening-Beginners
- 166 Vegetable Gardening-Intermediate
- 167 Commercial Vegetables-Advanced
- 168 Urban Gardening Series
- 169 Sweet Potatoes

Livestock

- 170 Non-Ownership An.Sci. I
- 171 Non-Ownership An.Sci. II
- 172 Non-Ownership An.Sci. III
- 173 Meats
- 174 Livestock Advancement

Poultry

- 175 Brooding and Rearing
- 176 Egg Production
- 177 Chick-n-Que Poultry
- 178 Commercial Poultry
- 179 Beginning of Life—Embryology
- 180 The Egg-citing Egg

Rabbits

- 181 Rabbits

Sheep

- 183 Ewe Flock
- 184 Market Lamb

Swine

- 186 Breeding Gilt
- 187 Market Hog
- 188 Feeder Pig

Veterinary Science

- 191 The Normal Animal-I
- 192 Animal Disease-II
- 193 Immunology, Zoonoses, and Public Health-III
- 199 Other A-P-S Projects

CREATIVE AND PERFORMING ARTS, LEISURE EDUCATION, AND COMMUNICATIONS

Photography

- 231 Adventures With Your Camera I
- 232 Challenges In Picture Taking II
- 233 Exploring Photography III
- 234 Mastering Photography IV

Public Speaking

- 236 Public Speaking

Share-the-Fun

- 241 Share-the-Fun
- 299 Other A-L-C Projects

ECONOMICS, JOBS, AND CAREERS

Food Industry

- 311 Dare to Discover

Economics

- 321 Let's Start A Business
- 399 Other E-J-C Projects

ENVIRONMENT AND NATURAL RESOURCES

Natural Resources

- 402 Your Surroundings I
- 403 Aquatic Science
- 404 Soil and Water Conservation I
- 405 Soil and Water Conservation II
- 406 Water and Energy Conservation

Archery

- 411 Archery

Entomology

- 431 Adventures with Insects I
- 432 Exploring the World of Insects II

Fisheries Science

- 435 Fisheries Science

Forestry-Beginning Series-Trees

- 441 What a Tree Is and How It Grows, A-1
- 442 How Trees Reproduce, A-2
- 443 How To Identify Trees, A-3
- 444 Why Trees are Important, A-4

Forestry-Intermediate Series-Forests

- 445 Introduction to Forest Values, B-1
- 446 The Forest Ecosystem, B-2
- 447 Forest Development and Regions, B-3
- 448 Forest Management, B-4
- 449 Dollar Value of Forests, B-5

Forestry-Advanced Series-Management

- 450 Forest Recreation, C-1
- 451 Managing the Forest, C-2
- 452 Urban Forestry, C-3
- 453 Forestry Careers, C-4
- 454 Making Forests Pay, C-5

Forest Appreciation

- 460 Individual Tree Studies II
- 461 Tree Identification III

Forest Establishment

- 464 Open Land or Spot Planting I
- 465 Christmas Tree Planting II

Forest Management

- 468 Timber Stand Improvement II
- 469 Thinning III

Forest Measurement

- 470 Timber Estimating and Log Scaling I

Wildlife

- 481 Wildlife I
- 482 Wildlife II
- 483 Urban Wildlife
- 484 Reptiles and Amphibians
- 499 Other E-N-R Projects

HEALTH AND SAFETY

Health

- 511 Junior Health (age 9-13)
- 512 Senior Health (age 14-19)
- 513 Jogging

Safety

- 521 Safety I
- 599 Other H-S Projects

HOME AND FAMILY RESOURCES

Clothing

- 611 Sew For Fun I
- 612 Sew For Fun II
- 613 Sew For Fun III
- 614 Fashion Revue
- 615 Textiles
- 616 Explore

Consumer Education

- 629 To Buy or Not to Buy I
- 630 To Buy or Not to Buy II

Family Life Education

- 631 You and Tots I
- 632 You and Tots II

Food and Nutrition

- 641 Me and My Food I
- 642 Breakfast-The Best Start 2
- 643 Lunches To Go and Grow On
- 644 Dinnertime with Virginia Teens
- 645 Outdoor Cookery
- 646 Foods With An International Flavor
- 648 4-H TV Mulligan Stew
- 649 Expanded Nutrition Program-Indiv.
- 650 Expanded Nutrition Program-Family

Home Environment

- 651 Your Space...Pep It Up I
- 652 Wake Up Your Space for Living II
- 653 Designer in Action III

Home Management

- 660 Management Matters
- 661 Get Smart I
- 662 Spotlight on Management II
- 663 Clues to Management
- 664 Mad, Mad World of Pots and Pans

Money Management

- 671 Cash and Stuff I
- 672 The Game of Cash and Stuff II
- 673 Cash and Otherwise II
- 699 Other H-F-R Projects

LEADERSHIP, CITIZENSHIP, AND COMMUNITY DEVELOPMENT

Citizenship

- 701 Me, My Family, and My Friends
- 702 My Neighborhood
- 703 My Clubs and Groups
- 704 My Community
- 705 My Heritage
- 706 My Government
- 707 My World

Community Improvement

- 711 Community Improvement I
- 712 Community Improvement II
- 713 Community Improvement III

Community Resource Development

- 721 Introduction to 4-H CRD
- 722 Youth in Local Government
- 725 4-H TV Living In A Nuclear Age

Exploring 4-H

- 727 Exploring Virginia 4-H

International

- 731 International Intrigue

Leadership

- 751 Apprentice Leader
- 752 Associate Teen Leader
- 753 Teen Leader

Self-determined Project

- 761 Make Up Your Own Mind
- 799 Other L-C-CD Projects

MECHANICAL SCIENCE AND ENERGY

Automotive

- 811 Wheels
- 812 The Car and the Highway I
- 813 Maintenance and Operation II

Bicycle

- 821 Your Bicycle and You I
- 822 Maintaining Your Bicycle II
- 823 Enlarging Your Cycling World III

Electric/Energy

- 830 Energy I
- 831 Electro I
- 832 Electro II
- 833 Electro III
- 834 Home Lighting
- 835 Be Energy Wise-Port. Appl.
- 836 Electronics VI

Small Engines

- 841 Four Stroke Engines I
- 842 Two Stroke Engines II
- 843 Lawn and Garden Power III
- 844 Learn to Earn IV

Tractor

- 851 Getting Acquainted With Your Tractor
- 852 Safe, Efficient Operation
- 853 Improving Your Skills
- 854 Machinery Care and Safety

Woodworking

- 861 Working with Wood
- 862 Wonderful World of Wood
- 863 Building Bigger Things
- 864 The Craftsman
- 899 Other MS-E Projects

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Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. James F. Johnson, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Lorenza W. Lyons, Interim Administrator, 1890 Extension Program, Virginia State, Petersburg.