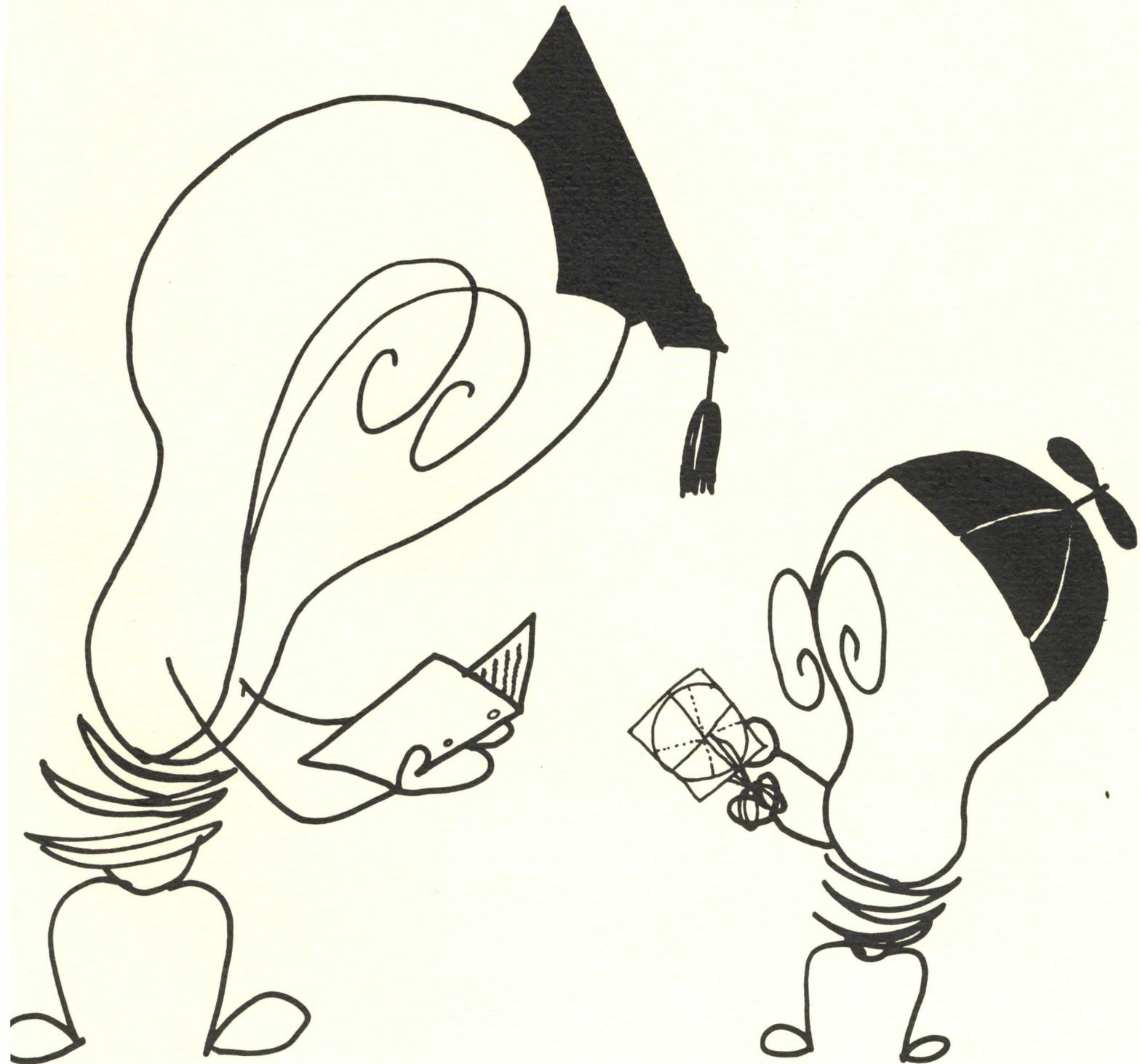


4-H Electric Project

Leader's Guide

General



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4-H ELECTRIC PROJECT LEADER'S GUIDE - GENERAL

INTRODUCTION

For Starters

Establishing a local 4-H electric program is appropriate in any and all communities. Electricity affects the lives of youth daily and offers them many challenging career opportunities. Many local people are involved in or work with one of the dynamic areas of electrical energy and you as a leader will have a good back-up of resource people.

Briefly - The 4-H Electric Project can produce desirable results -

- *instills a POSITIVE attitude towards developing leadership talents, character, and effective citizenship
- *helps individuals understand how electricity is produced, distributed, and used
- *emphasizes safety, safety equipment, and ways of meeting emergencies
- *encourages skill development in building motors, radios, study lamps, and other electrical experiments
- *provides excellent background and preparation for a career
- *gives youth the opportunity to teach others about electricity.

Learn About the Program

As a leader, you will find it advantageous to become completely familiar with the 4-H Electric Program and the supporting aids available. This guide will introduce projects and assist you in planning a complete electric program. Leader's guides are available which give specific help and directions for conducting each separate project.

The scope and effectiveness of the 4-H Electric Program are dependent upon the involvement of the community and its leaders. Thorough planning and organization of the program is essential. Once you have become familiar with the organization of the 4-H Electric Program, and with the program's supporting materials, you can emphasize the results to be gained by community involvement.

Obtain copies of the member's manual and leader's guide for a) Electro 1, b) Electro 2, c) Electro 3, d) 4-H Home Lighting, e) Electronics for Communication, f) 200 Topics for Electrical Demonstrations, g) Va. 4-H Electric Program Leaflet for the Current Year. After you have become familiar with these you will have a good working knowledge of the entire program.

Your Job as Leader

Being a leader is an important job and you will want to challenge youth as you work with them in the 4-H Electric Program.

As a responsible leader you should:

1. try to understand the youth with whom you are working
2. provide project information, teach electrical skills, and give assistance to 4-H'ers in their project groups. Extension agents in your county/city and representatives of your local electric power supplier can help you provide up-to-date information.
3. help members plan and conduct worthwhile learning experiences through project meetings, at-home activities, demonstrations, tours, and exhibits. These will vary according to the level of knowledge, interests, and experiences of each 4-H'er.

4. encourage members to complete successfully more than the minimum project requirements.
5. inform parents of 4-H project work and activities.
6. encourage parents to become involved and interested in the 4-H member's work.

TEACHING THE ELECTRIC PROJECTS

Project Requirements

One reason the Electric program appeals to many youth is the wide variety of activities in which they can participate, according to their interests. It is closely related to many other 4-H projects. For example, many learning activities in the foods and nutrition projects involve the use of electrical appliances, and electrical equipment is important in animal and plant science projects.

Three electric project books have been prepared for younger 4-H'ers. These are Electro 1, Electro 2, and Electro 3. They were written for 9 to 12-year-old 4-H'ers. They become progressively more difficult and each reviews, then adds to the information given in the preceding book.

In most cases, 9 or 10-year-old 4-H'ers will begin in Electro 1 and, each year, advance to the next project book. However, Electro 2 and Electro 3 contain enough information that a 4-H member could enroll in one of them for two years and still encounter many new learning experiences. Or, if a youngster begins the electric project at age 12, he may do a quick review of preceding project book(s) and enroll in Electro 2 or 3 his first year. It is important that he understands the basic principles of electricity presented in preceding projects books, but he need not always enroll in and complete all of the preceding activities. It is more important that he feel he is learning something worthwhile and challenging.

Minimum requirements for successful completion of these project units are in the member's project book. You may help members add to, or find substitutes for the learning activities suggested in the project books. It is important that each 4-H'er learn the basic principles of electricity, but it is equally important to keep them interested and challenged. Encourage them to go beyond minimum requirements.

Older 4-H'ers may participate in a variety of electric project activities, including the Electronics Project (Electronics for Communications) and the 4-H Home Lighting Project. Both are popular with many teens. Also, most older 4-H'ers like to work as junior 4-H leaders, helping adult leaders teach project information to younger 4-H'ers. They will need guidelines from adult leaders but prefer to make their own decisions and to carry them out with a minimum of adult supervision. (See 4-H Leader's Handbook, Publication No. 180, page 31, for more information on characteristics of teens.)

Materials You Should Have

You should read carefully the 4-H Leader's Handbook before you begin to work with your electric project group. You should also have a copy of the leader's guide and member's project book for the unit you are teaching - i.e. - Electro 1, Electro 2, or Electro 3. Refer to page 17 of this publication for suggested resource material which will also be helpful.

Understanding Young People

Each member in the electric program is a unique individual with personal abilities and interests. Each youngster follows certain patterns or stages of growth and development. The age at which a child will enter certain stages varies with the individual, but through studies we have a general idea of the characteristic behavior to expect at different ages. The characteristics of youngsters 9 through 13 years of age are discussed on page 30 of the 4-H

Leader's Handbook. You will find it helpful to review these characteristics.

How Young People Learn

In 4-H, we believe that people learn best by "doing". After being told and shown how to do something, they need an opportunity to try it themselves. They will continue to need suggestions for improvement as they "learn by doing".

Most healthy young people have a great curiosity, an eagerness to learn, many interests, and great persistence. Yet the things they want to learn and can learn vary with their abilities and interests, their past experiences, their past successes and failures, their anxieties, and their physical and emotional health.

A leader who is conscious of the needs and interests of each 4-H member in his group can do much to insure that each will enjoy a worthwhile learning experience. Youngsters in a 4-H electric project group will learn many things, such as how to get along with others, in addition to learning about electricity.

Teaching Methods

As a 4-H electric project leader whose primary responsibility is helping young people learn, you need to know the teaching methods available to make your job more effective. Teaching methods available to the Electric project leader vary. Choose a method that will do the best job for you. 4-H'ers will learn best when a leader uses a variety of teaching methods. A brief explanation of several teaching methods follows.

Lecture:

This is a talk by a person who speaks to a group from prepared notes without the benefit of visual aids or without opportunity for the group to break in with questions.

This technique is not used often in its "pure" form. You may use this method for a short time to present new facts and information. You may combine it with other methods such as small group discussion, agree-disagree statements, and questions to be sure members understand what was said and how they can use it.

Illustrated Talk:

This is an offshoot of the lecture method. The teacher supports the talk with visual aids, such as graphs, charts, models, etc. This is an excellent method. We encourage members to prepare and give illustrated talks. Leaders can show the way through example. For more information on illustrated talks see Publication 56, "4-H Demonstrations and Illustrated Talks with Debbie and Tommy", and Publication 322, "Demonstrations and Illustrated Talks for Senior 4-H Members".

Demonstration:

Think of this as the "show me" method. Basically, you show the members how to do something. If you show them how to replace a fuse or reset a circuit breaker and, at the same time, explain why and how each part of the work is being done, you are giving a demonstration. Demonstration is one of the most effective teaching methods. For more information on demonstrations see Publication 56, "4-H Demonstrations and Illustrated Talks with Debbie and Tommy"; Publication 322, "Demonstrations and Illustrated Talks for Senior Members"; and Publication 596, "200 Topics for 4-H Electric Demonstrations".

Discussion:

This method takes many forms. You may raise a question before the whole group and allow free-flowing answers and questions. This is an excellent method to involve members and they are likely to learn more as a result of this involvement. However, the discussion must have direction and certainly is more than a "bull session

Work Session:

This teaching method provides members with an opportunity to "learn by doing". The work session is the backbone of the 4-H program. The members, under the guidance of leaders, have opportunities to test and perfect their new learning. As an example, after you show and tell an electric project group how to replace an attachment plug, give them a chance to practice this repair job under your supervision at the project meeting.

Tours:

Tours can add variety and interest to the electric project. They are especially useful when you are teaching about something which cannot be brought to the project meeting. Tours may be visits to industries and businesses where the group can see electricity being made or used, visits to all-electric homes or farms, or visits to the homes of 4-H'ers to see their electric project. Here are some guides you will find helpful in planning a tour.

- Have a definite idea of what you want your group to see and learn on the tour. Be certain this is understood by the tour host and by your project members.
- Provide the host with pertinent information about your group, such as their ages and level of ability.
- Avoid including too many learning experiences in one tour.
- Set a definite time for the tour to begin and end.
- Allow enough time for the host to cover his topic adequately.
- When a 4-H member is host to a tour group you will need to provide him with special help in knowing what to tell the group and how best to present his information.
- Contact your local electric power supplier for tour suggestions.

Exhibits:

Exhibits are vitally important to 4-H work. As 4-H'ers prepare an exhibit, they learn more about the featured article or idea. The exhibit also helps them teach other information about their 4-H project.

Exhibits may be displayed at project meetings to highlight the information being taught. They may also be on displayed at general public at county/city fairs, during National 4-H week, during the State 4-H Electric Congress, at county/city Achievement Programs and in store windows. Exhibits are of three basic types:

*Action exhibits which people watch.

*Action exhibits in which people participate by performing some action such as pushing a button.

*Non-moving exhibits which tell a story.

Your 4-H'ers will be in a position to make good exhibits because of their knowledge of lighting, motors, and other electrical devices. Not only can they tell about their electrical projects and show the finished product, but they can put them into action.

There are a few points which should be remembered when putting together an exhibit:

- Have something to say.
- Say it briefly so it will be remembered.
- Make it attractive and neat.
- Make it attention-getting.
- Make it simple. Don't try to put too much into one exhibit. For additional information, contact your Extension Agent. You may also wish to order from National

4-H News a magazine especially for 4-H leaders, Leaflet Z67, "Exhibits That Get Action".

- Make lettering large and neat.

Judging:

This method allows the leader to assist members in learning to make decisions. Providing members with opportunities to judge items such as reading lamps, extension cords, motors, and radios, will aid them in making wise decisions based on knowledge and understanding. Added attention and interest among members will result. Avoid condemning or criticizing the 4-H'er; rather, help him see how he can improve the item he has made.

Surveys:

The survey is a good activity in which all 4-H'ers can take part with enthusiasm. There are many areas in the home and community in which surveys are needed constantly.

To get your 4-H'ers in a "surveying" mood, you might start them out with an "Electric Motor Hunt". You may set this up as a contest between individuals or groups of individuals to see who can locate the largest number of electric motors around the meeting place. This is especially fun if it can be done at a farm or in a home which uses electricity in many places. Small motors, such as those in clocks and fans, are often overlooked. Consult the host for the club meeting before planning this activity.

There are many other types of surveys such as surveying lamp wattages, appliances in use (or not in use), for frayed service cords, uses of electricity in other projects, and for electrical hazards. You will think of many other subjects for surveys as you work with your project group.

THE PROJECT PROGRAM

Planning

Electro 1, 2, and 3 were written for both sexes. Some suggested learning activities will be of interest to both while others may be of greatest interest to males or to females. You will want to keep the interests of each individual 4-H'er in mind when planning your electric program.

There are a few guidelines for planning good project meetings. Project meetings are, of course, the heart of the 4-H Electric Program. To be good, they must move along without losing the attention of the members.

Good meetings . . .

- Have variety and are fun.
- Start on time and end on time.
- Rarely last more than 1½ or 2 hours
- Have members participate through demonstrations, illustrated talks, judging, building models, making exhibits.
- Work on record books.

Above all, remember to key project meetings to the age level of the members in a project group. Don't make them too complicated, but don't make things too simple either. Challenge members but keep the training on their level. You will be able to tell how well you are doing by the reaction of the members.

Helping plan project meetings is a learning experience for 4-H'ers. With younger members, you may need to do most of the planning and merely give them a few choices. However, as they become older and more mature, they can assume greater responsibility for helping plan and conduct the project meeting.

Have as many members participate in each meeting as possible. Encourage members to give demonstrations and talks as often as possible so that they feel a part of the project group. Assign such responsibilities to members at the planning meetings. Participation is the key in building and maintaining interest among members.

Take some time during the meetings to work on record books. Books are easy to maintain if they are kept up-to-date at all times.

Yearly Plan

Plan your meetings on a yearly basis. Decide how often you will meet and what is to be done at each meeting. This allows you, the 4-H'ers, and the parents to know what to expect and enables them to reserve time to participate.

Some groups hold their project meetings during a short span of time, such as meeting every week for two months. They then plan for related activities, such as tours, at appropriate times throughout the year. Other project groups schedule meetings and related activities throughout the year. In either situation, careful planning is the key to success.

Planning can be easy if you follow 3 basic steps:

1. Determine the situation: Know the ages, abilities, and interests of the 4-H'ers in your group. Know their home situations, how often they can attend meetings, the most convenient time for meeting, the meeting facilities available, the project material and extra resource material available, the availability of resource people to help you and the help you can expect from parents. Decide what involvement and cooperation you will need from the community.

2. Decide what you want to accomplish: Review project and other resource material to determine what needs to be done to meet minimum project requirements and what additional learning experiences you and the 4-H'ers wish to include. Be realistic in your planning. You can always add to your plan as you go along. Involve members in the planning as much as possible.
3. Schedule the project program: Knowing your general plans and available resources, schedule your program accordingly.

Content of the Project Meeting

There are many learning experiences which can be planned for a project meeting. Use the teaching method you think best for the information to be taught and for the facilities available. In addition to project information you plan to teach at the meeting, you will want to include some of the following:

- *Discuss plans for the current meeting.
- *Discuss what members have done since the last meeting.
- *Judge items made by members.
- *Have at least one demonstration/illustrated talk by a member.
- *Have members exhibit items they have made.
- *Have members bring records up-to-date.
- *Make plans for the next meeting.
- *Discuss what members need to do at home to accomplish assigned tasks.
- *Have a period when members can have some form of recreation and perhaps simple refreshments.

PEOPLE TO HELP YOU

County/City 4-H Electric Program Chairman and Committee

Each county or city in Virginia has one person designated as 4-H Electric Program Chairman. It is the responsibility of this leader to work with the County Electric Committee in planning county- or city-wide 4-H electric activities and events. These may include a special exhibit program, an electric program workshop, and/or a demonstration and illustrated talk program.

This committee, composed of 4-H leaders, 4-H members, an Extension Agent, and representatives from the local electric power suppliers, should share its plans for county- or city-wide events with every local 4-H electric project leader. This will enable you to include these events as part of your yearly 4-H project plan.

Extension Staff

The Extension Agents in your county or city will help you with the electric program. They can offer you helpful suggestions on program planning and teaching methods, help you develop the knowledge and skill you need to teach, and suggest resource people to assist you. In addition, they have written materials, slides, and other teaching aids you will find useful.

Your Extension staff also is in contact with specialists in the field of youth work and electricity and with other available resources at Virginia Polytechnic Institute and State University, Virginia's Land Grant-University, which is the headquarters of the Virginia Cooperative Extension Service.

Power Suppliers

Your local electric power suppliers are an important source of help. They often will help you plan meetings on electric subjects and assist in assembling needed supplies and equipment. Sometimes they may assist by giving a demonstration and/or by helping 4-H members prepare demonstrations, exhibits, and by helping to arrange tours.

Electrical contractors, electricians, and appliance dealers are also sources of help. They can help with instruction and may provide meeting places and equipment to make your instruction more meaningful.

4-H Member Leaders

Older 4-H members can be a big help in your 4-H project group. They can assist in planning and conducting meetings, demonstrations, projects, and tours. They can also help with projects and records at meetings or through home visits. You help older members develop leadership by giving them the opportunity to help you with your program.

A good junior leader should have some of the following qualities:

- *A sincere interest in helping others.
- *A good sense of humor.
- *Some planning ability.
- *Some speaking ability.
- *The respect and friendship of fellow club members.

You will also want to consult junior leaders about decisions concerning the program. The junior leaders will need help from you on subject matter and how to work with younger boys and girls. Help them prepare for the leadership job,

then allow them to assume the responsibility for doing it. Be available to help them if needed. For more information on working successfully with junior leaders, refer to your 4-H Leader's Handbook.

Parents

Parent interest and cooperation are essential for a successful 4-H program. Strive to keep parents aware that their cooperation is important. By doing so, most parents will become a valuable asset to the 4-H program.

Successful methods leaders have used to enlist parents' support can be found on page 32 of your 4-H Leader's Handbook.

Recognition

Everyone needs recognition as a person and for his or her accomplishments. Perhaps the most important forms of recognition a young person can receive is a "pat on the back" for a job well-done and your demonstration of faith in his ability to assume specific responsibilities at project meetings, on tours, or other activities.

In 4-H we also give recognition by presenting awards such as ribbons, trophies, pins, certificates, trips, savings bonds and scholarships. Younger 4-H members especially like ribbons and pins - things which show they belong. Older 4-H'ers are more interested in receiving trips and scholarships. This not only gives them recognition but also helps satisfy their need to explore the world outside their community.

The purpose of awards and recognition is to help members evaluate their efforts and to aspire to learn more. In other words, awards and recognition are meant to be incentives that will help 4-H'ers live up to their motto, "To Make the Best Better".

AWARDS AVAILABLE

Local

Many 4-H clubs present pins, ribbons, or certificates to members for exhibits, record books completed, and demonstrations. For example, most local clubs hold a special demonstration day at which members are scored on a demonstration they have prepared and given. Blue, red, and white ribbons or similar awards are usually presented in recognition of their accomplishments.

County, State, and National

Many awards are available in the 4-H Electric Program at all levels - county, state, and national. These awards are provided by electric power suppliers in Virginia and by the Westinghouse Electric Corporation. The project awards program is outlined in the leaflet, "Virginia 4-H Electric Program". Ask your Extension Agent for enough copies to distribute to members of your group.

Record Books are Important

You will want to keep records of the attendance of club members, their performance on demonstrations, and their participation in activities. This will help you guide each member in choosing activities that will be of maximum benefit.

You will also want to help each member keep a record of his learning experiences in the 4-H Electric Project. This will help him and his parents to see what he has accomplished and to plan for future learning activities. A project record is in the back of each member project book. In addition, there are pages throughout the project book for the 4-H'er to record what he is learning and simple tests to help him and you evaluate his progress.

Younger members will need much help and reminding from you to complete their project records. While a completed project record is not a requirement for continued 4-H membership, it can be a meaningful learning experience. At the end of each project meeting, some leaders have the group record what they have learned in a small notebook. This information can be transferred neatly to the project record at the end of the year.

Accumulated Achievement Records

You also will want to encourage younger members to keep a 4-H memory box or memory book to preserve pictures, news clippings, and other information about their 4-H activities. When they are about 13 or 14, encourage them to begin an accumulated record. This is a summary record of everything they have done and learned in 4-H. If their 4-H electric project has been of particular interest to them, they will want to feature that project in their accumulated record. They will need to refer to their individual project records and to their 4-H memory box to complete such a record. Also, the records you have maintained for your own use may be of help to them. Talk with Extension Agents in your county or city about records.

RESOURCE MATERIALS AVAILABLE

Extension Publications (consult your Extension Agent)

4-H Project Books:

RB 67, Electro 1

RB 5002, Leaders Guide for Electro 1

RB 69, Electro 2

RB 5003, Leaders Guide for Electro 2

RB 70, Electro 3

Pub. 520, Leaders Guide for Electro 3

Pub. 502, 4-H Home Lighting

Pub. 528, Leaders Guide, 4-H Home Lighting

RB 5004, Unit V, Electronics for Communications, Members Manual

RB 5005, Leaders Guide for Unit V, Electronics for Communication

Leaflet - Virginia 4-H Electric Program (contact Extension Specialist, Agricultural Engineering, VPI&SU, Blacksburg, Va. 24061.)

Pub. 180, 4-H Leader's Handbook

Pub. 56, 4-H Demonstrations & Illustrated Talks with Debbie & Tommy

Pub. 322, Demonstrations & Illustrated Talks for Senior 4-H Members

Extension Form 62, Scoring Aid for Demonstrations and/or Illustrated Talks

Other Publications

Pub. 512, How to Save on your Electric Bill

Pub. 656, Why, What, and How of Home Insulation

Pub. 686 - Energy Management Checklist for the Home

Note: Your electric power supplier may have publications that will be helpful in your program.

Slides and Films:

State 4-H Electric Congress - slide set with script and cassette tape. Revised every year to cover the most recent congress (available for loan).

Electrical Safety and You - slide set with script, available for loan.

Electricity - The Way it Works - 16-minute movie on production, distribution, and uses of electricity. On loan from VPI&SU Film Library, Patton Hall, Blacksburg, Va. 24061.

The Mighty Atom - 45-minute movie with clever animation showing the atom's relationship to electric power.