A COMPARISON OF TWO TYPES OF 4-H ELECTRIC LEADER PUBLICATIONS USED BY FIRST YEAR LEADERS IN MICHIGAN

by

C. Dean Allen

A THESIS

Submitted to the College of Agriculture of Michigan State University
of Agriculture and Applied Science in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE

Institute for Extension Personnel Development

1960

PREFACE

This study was planned and designed to obtain information relative to the most useful style and format of 4-H club leader's manuals, particularly for first year leaders. Experience indicates that this first year is a critical time in the career of a 4-H club leader. Many new leaders terminate their leadership experience at the conclusion of the first year. This brief tenure is a source of concern because of its disruptive influence upon the 4-H club program in a community and because the leader himself usually fails to develop his greatest leadership potential as an individual in the community. It is the hope of the writer that better 4-H leader publications and improved leader tenure will be favorably influenced as a result of this study.

The efforts of Einar G. Olstrom, along with Robert Maddex and County Extension Agents serving on the Michigan Electric Project Developmental Committee, resulted in the 4-H Electric Project Leader's Manual used in this study. A similar committee at the national level prepared the Leader's Idea Book, printed by the Westinghouse Electric Corporation, which was also utilized in this study for comparative purposes.

Particular credit is due Dr. John T. Stone, former staff training officer of the Michigan Cooperative Extension Service, for his assistance and encouragement in developing the framework and questionnaire for this research project. He was also involved in the preparation of the Leader's Manual designed for first year 4-H leaders and used in this study.

The guidance of the author's advisor, Dr. George H. Axinn, Associate Director of the Michigan Cooperative Extension Service, was particularly helpful in analyzing the data obtained and in organizing the information for effective presentation and use.

Dr. William D. Baten, statistician of the Michigan Agricultural Experiment Station was most helpful in advising on statistical procedures for the study.

The worthwhile suggestions of Dr. Russell G. Mawby, Assistant Director of Extension, 4-H Club Program; Dr. Sheldon G. Lowry, Department of Sociology and Anthropology; Ralph L. Hamilton, Assistant Agricultural Editor, Information Services and Mrs. Laurel K. Sabrosky, Research Analyst, Federal Extension Service, were very useful in the preparation of this thesis.

A COMPARISON OF TWO TYPES OF 4-H ELECTRIC LEADER PUBLICATIONS USED BY FIRST YEAR LEADERS IN MICHIGAN

by

C. Dean Allen

AN ABSTRACT

Submitted to the College of Agriculture of Michigan State University
of Agriculture and Applied Science in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE

Institute for Extension Personnel Development

1960

Approved _____

ABSTRACT

The effective involvement of adult volunteer local 4-H club leaders is considered an essential aspect of the 4-H program. First year leaders, in particular, are faced with many new responsibilities from which must result a satisfying experience if they are to continue their voluntary leadership responsibilities. One of the means for providing essential teaching information to these leaders is through the use of publications. The content and organization of these publications is a responsibility of the Cooperative Extension Service. Knowledge of the most effective type of publication is important in serving the needs of 4-H leaders; however, knowledge of this subject has been limited.

Data used in this study was obtained from a mail questionnaire to Michigan 4-H electric project leaders in 1959. A 63.8 percent response resulted in 333 returns. Two leader publications, the Leader's Idea Book and Leader's Manual were available to counties for the first time in the fall of 1958 and were assigned to counties on a matching basis.

The Leader's Manual was a meeting-by-meeting outline with rather specific suggestions for the leader to follow while the Leader's Idea Book was organized topic-by-topic with rather general suggestions for the leader.

First year leaders using the meeting-by-meeting publication were found to have a statistically higher percentage of members completing the project, expected a greater increase in their club membership for the coming year, and made greater use of games and recreation ideas in

their club program than did users of the topic-by-topic publication.

First year leaders using the Leader's Manual also scored higher than comparable users of the Leader's Idea Book on willingness to lead a 4-H club next year, holding of local achievement programs, goal accomplishment as defined by the leader, expected club membership the following year, on usefulness of the publication for selected types of information and rated their clubs higher on a composite score of club performance. However, none of these scores were statistically different between the two groups.

Experienced 4-H electric leaders evaluated the usefulness of the two publications somewhat differently. Those using the Leader's Manual scored significantly higher on the frequency of local club achievement programs. They also indicated a higher percent of members completing and were more likely to indicate a willingness to continue 4-H club leadership for the following year. Experienced leaders using the Leader's Idea Book made significantly greater use of games and recreation ideas and expected a greater increase in their club membership. They also indicated greater goal accomplishment in their own minds, had more members knowing the club pledge, and rated their clubs higher on a composite scoring of club performance. The two publications appear to be of about equal value to experienced 4-H leaders.

Leaders who had a thorough explanation of good quality regarding the use of their leader publication considered the publication to be more useful than did leaders not receiving a good explanation. Those leaders not attending training meetings found the leader publications more useful than did those who attended training meetings. A personal, face-to-face contact in presenting the leader publication to leaders

resulted in greater usefulness than did distribution at a meeting or by mail. Intent to continue 4-H leadership was positively correlated to attendance at leader training meetings and with having assistance from County Extension Agents and Power Supplier Representatives.

These findings have implications for Extension personnel responsible for 4-H leader publications. In general, the specific, meeting-by-meeting publication is more useful to the first year 4-H leader than is a publication organized by topics or sections and the type of publication influences the leader with respect to club programming and continuation of 4-H leadership for the youth of the community.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The successful involvement of adult volunteer local 4-H club leaders is considered as an essential aspect of the 4-H club program in Michigan. This leader is a teacher, advisor, counselor, helper, confidant, and all-around handyman to the members of his or her 4-H club. But more important, he or she serves a vital role in the process by which educational experiences in the 4-H club framework are made available to young people of his community.

Superior, or even satisfactory, performance of the responsibilities of a club leader depend upon the information, training and assistance given him, as well as the knowledge and capabilities which he, himself, brings to the task.

This study is primarily concerned with those aspects of assistance and training which may be provided through means of publications, particularly leader manuals. Particular attention will be given to publications for first year leaders since early experiences, satisfactions and accomplishments appear to influence continued participation as a leader.

Sabrosky and Kelley recently expressed this in broader terms as follows:

> We all do our work well if: 1) We have the personal satisfaction of doing a good job, 2) We feel personal security in the job. This...is true for volunteer 4-H club local leaders.[1]

---

[1] Laurel K. Sabrosky and Fern S. Kelley, Let's Strengthen Our Local 4-H Leader Training, a booklet based primarily on a study in 10 Western states involving 3,307 local leaders in 33 counties. (U. S. Department of Agriculture, Federal Extension Service, 1959) p. 1.

The brief average tenure of local volunteer 4-H club leaders in Michigan has long been a major concern of the professional Extension worker. Many efforts have been directed towards solving this problem through better training of leaders in meetings, personal visits and letters as well as a multitude of publications. However, few of these publications were written specifically for leaders and rarely were they directed primarily towards the new or first year leaders.

In a program such as 4-H club work, the personal satisfaction of the volunteer adult leader is considered as paramount to his continuation in this role. A chief source of this satisfaction comes in knowing that he or she has performed well as a leader in the eyes of club members, parents, other leaders and Extension agents. Satisfactory performance and confidence in his role as a leader depends largely upon knowing what is expected of him.

Role and Function of the 4-H Leader

While several terms may be used in describing the role of a 4-H club leader, he must first be a teacher. For unless the leader teaches others and assists them in broad educational experiences, the Cooperative Extension Service has little justification for using public funds for promoting the 4-H club program.

Ideally, this is the notion of the role of a local 4-H club leader. Of course, in actual practice, the leader may not always achieve these criteria in his day-to-day functioning. Along with the educational emphasis of the program, the informal, outside-the-classroom aspect should be recognized as important. Whether the club meets in a home, a workshop, a public hall or in the school, the atmosphere is one of informality

between club members and their leader when contrasted with the typical classroom situation. The essential role of the leader is one of guiding rather than directing and ordering. He works with people rather than for them and strives to be identified with the group rather than above the group.

Many factors, both positive and negative, influence the nature of the leadership provided in a given situation. The mode of operation for a leader may often be determined by chance as well as by intent. Busch points out how leaders may frequently acquire a pattern or procedure for their guidance of a group:

> Probably the majority of leaders have never thought out their procedures in terms of social objectives, but have consciously or unconsciously patterned their leadership after that of a more experienced person who has appeared successful in group work.[2]

In Extension, the objective is to teach lay leaders by example, but more than that, a desire to provide them with a conscious knowledge of what to do, how to do it, and why it is important and desirable. Frequently, effective training is accomplished through an exchange of ideas among volunteer leaders, though this training is not always brought about by direct efforts of the professional worker. It frequently occurs as a part of normal leader-to-leader contact.

According to Roberts, the leader will perform best when he knows that:

> The leader should encourage the kind of atmosphere and settings whereby all aspects of learning, not subject matter alone, can be explored, experienced, and evaluated.[3]

---

[2]Henry M. Busch, Leadership in Group Work (New York: Association Press, 1934), p. 120.

[3]Dorothy M. Roberts, Leadership of Teen-Age Groups (New York: Association Press, 1950), p. 111.

Thus, the professional's expectations of the volunteer leader may be idealistic, perhaps higher than the volunteer feels capable of achieving. However, if he can be made aware of his need for information and training for the performance of his responsibilities without becoming so afraid of his leadership role that he withdraws entirely, there then exists a leader ready to accept training through meetings, publications and other media available.

The Extension agent may find himself in this situation in the 4-H club program:

> Amateur performance by the clientele must be fostered, but the direction should be expert, both in content and in methods of leadership. If competent people can be secured as volunteer leaders or teachers, an unusually happy condition obtains. The criterion, however, is competent performance. The new leadership must know how to stimulate interests, how to develop confidence in the individual and cooperative ability in the group and how to overcome the comfortable lethargy which so afflicts passive audiences.[4]

The above references briefly outline the role of the volunteer leader and indicate some of the concerns of the professional workers who guide this leadership.

Needs of Leaders

While training meetings may be looked upon as the chief means of training leaders, it is known from the experience of most Extension agents that many leaders do not attend meetings. A further examination of this situation will be made in this study in Chapter IV. The Western States study by Sabrosky and Kelley reports that, "Almost half - 45 percent - of the local leaders in the study attended no county training meetings."[5] The writer's experience would indicate this might also be

---

[4]Busch, op. cit., p. 8-9.

[5]Sabrosky and Kelley, op. cit., p. 3.

considered typical of the situation in parts of Michigan, though some counties have greater participation.

If a major portion of the 4-H club leadership is not being reached through training meetings, other means of assisting leaders in the several areas of competency must be devised.

The above statements are accepted as true for both task and maintenance type leadership functions even though the volunteer leaders may initially possess greater competency than most others in the community. As pointed out by Jayner, "Leaders in a particular field need and tend to possess superior general or technical competence or knowledge in that area."[6] The concern is that leaders are not trained as well as they can or should be trained. The value and use of leadership competencies is better understood through further examination of the leadership role by Jayner, "...task relevant information as applied in this experiment seemed to function as a catalyst in the leadership process, rather than as a principal agent."[7]

The 4-H leader finds that task skills which he brings to bear upon the situation serve to promote the objective of the group but not the program itself.

Also of significance is Jayner's hypothesis that, "...in a group problem solving situation individuals who possess task-relevant information will attempt a greater number of leadership acts than individuals who possess no task relevant information"[8]

---

[6]Christian Jayner, Psychological Monographs, ed. John K. Hemphill, Pepinsky, Shevity, LXX, No. 70 (1956) p. 3 quoting Jenkins.

[7]Ibid, p. 15.

[8]Ibid, p. 22, a hypothesis which his findings support.

Briefly then, this hypothesis points out the need for equipping 4-H club leaders with publications containing information relative to the task in group problem solving activity. To the writer, this would seem to be equally true of information relating to group maintenance functions of the 4-H leader.

The means of imparting these two kinds of information may vary depending upon the situation. Sanderson also recognizes the circumstances found in 4-H club work:

> Certain positions of leadership are dependent upon knowledge of subject matter or method of work. This may be gained through helpful literature prepared for this purpose and to which the leader may refer. This may be in the form of specially prepared leaflets such as those furnished 4-H club leaders by the state colleges of agriculture, a book such as the Girl Scout Handbook, or it may be a feature of a weekly or monthly paper or magazine issued by the organization concerned as, for example, the Lecturer's Column in the National Grange Monthly. Conferences of leaders, study classes or training schools are also means to the same end.[9]

Apparently, Sanderson feels that Extension has made a contribution to the work of the volunteer leader via publications. However, he does not site research indicating the usefulness of such publications. The concern of this study is to seek information that will improve publications for 4-H club leaders from a content and format standpoint.

Perhaps Burr's comment aptly described a desirable circumstance for professional 4-H workers as well as for the local volunteer club leader:

> Variety of experience means greater opportunity for the individual concerned to get facts, develop habits, modify

---

[9]Dwight Sanderson, Leadership for Rural Life (New York: Association Press, 1940) p. 88.

habits in a constantly expanding life, think in new situations, and participate in such situations.[10]

Leader publications have indicated their possible usefulness to the 4-H leader in that they may help provide relevant information that will assist in bringing about this variety of experiences referred to by Burr. Granted, reading does not insure application. It does provide a means of securing information, a necessary prerequisite of application.

There is now a particular need for refining the techniques and presentation of published information to leaders in its most usable form and determining what types of information can best be imparted in this manner.

Four purposes of the leader publication are evident from the preceding discussion:

1. To provide task-relevant information for the 4-H club leader.
2. To provide group maintenance type information for the 4-H club leader.
3. To serve as a substitute for training received through meetings and other media.
4. To supplement training received through meetings and other media.

There is also a need to know more about how leaders can be motivated to use the publications available, another responsibility of Extension workers.

---

[10]Walter Burr, Community Leadership, (New York: Prentice-Hall, 1929), p. 88.

If the premise is accepted that knowledge of 4-H club leadership responsibilities is an important aspect in gaining needed satisfaction from the role, Extension workers are then faced with a broad problem. This problem is how to teach or train the leader in the many areas of competency needed for effective club leadership and development of the leader as an individual. The traditional emphasis upon training meetings, personal visits and letters, while helpful, has not always accomplished this to the desired degree. In Michigan, the Cooperative Extension Service has placed an increased emphasis upon the publication of leader manuals in the various projects available to club members in Michigan. Leaders have generally said these publications have been helpful. However, each author is inclined to use a different type of organization for the content of his leader's manual and to place greater or lesser emphasis on various points, depending upon his own background and experience.

A review of literature as discussed in Chapter II indicates that this specific field of study is virtually unexplored with respect to the organization and content of manuals for new leaders. This situation indicates the need for research in the area of publications for 4-H club leaders, particularly for those leaders assisting with the program for the first time.

It is the intent of this study to find answers to some of these problems, particularly those problems related to the organization of the subject matter within a leader's manual. An attempt will be made to test the hypothesis that specific, meeting-by-meeting outlines of what the leader should do and how he should do it are superior to a topic-by-topic or general approach to printed leader manuals.

Major Hypothesis

The major theoretical hypothesis of this study is that more satisfactory first year leader performance and first year leader satisfaction will result from the use of a specific meeting-by-meeting manual of procedure than from a general topic-by-topic manual among first year 4-H electric project leaders.

This hypothesis, which will be supported by statistical sub-hypotheses, may be better understood by referring to the publications used in this study. The Leader's Manual (Appendix C) is a procedural outline for leaders to follow. It begins by suggesting how the leader may organize a 4-H club, where to obtain information and help, details of what to do at the first meeting, and a two page outline to follow for each succeeding meeting. It encompasses ideas for teaching subject matter, recreation and business sessions.

Contrasted with this is the Leader's Idea Book organized by topics or sections (Appendix C). These topics include an introduction, explanation of the electric program, literature helps, personnel available, planning the club program, meetings, publicity, recreation ideas, demonstrations and activities.

A nation-wide publication such as the Leader's Idea Book is, of necessity, more general in nature than was the Leader's Manual prepared for use in one state. This is because of the variation between 4-H programs of the various states with the resulting lack of specificity in a publication acceptable to all states.

While the evaluation of a 4-H leader publication cannot be fairly and completely based upon one or even a few points, it is within the

scope of this study to evaluate several points of major significance in the preparation of such publications. Performance of leaders is measured by their accomplishment of certain goals including the percent of members completing projects, involvement of suggested resource people, percent of members learning the 4-H club pledge, use of recreation and whether or not a local club achievement program was held.

Leader satisfaction is defined for the purpose of this study as willingness to continue club leadership, a feeling of accomplishment and the giving of a high rating on his club program by the leader. Measurement of satisfaction is based upon whether or not the leader is willing to serve as a leader again, the extent to which he feels the club accomplished its objectives and upon his rating of the club on selected points typical of a club program. The anticipated membership in the club next year is used as both an indicator of accomplishment and satisfaction, in that club growth usually depends upon a program of interest to members and an interest and willingness to increase membership on the part of the leader.

This study is based upon the assumption that the first year 4-H electrical club leader is usually uncertain of procedures, lacks knowledge of 4-H program information or electric subject matter or both and is apt to be at a loss as to how he should proceed unless provided with a simple guide which he can easily follow. His situation is similar to that stated by P. O. Davis, "When farmers read a bulletin they expect it to be 'directions on the bottle.' They do not read it for inspiration or general information but to learn concise facts."[11] It is assumed that

---

[11]P. O. Davis quoted by Wilford D. Porter and W. A. Sumner, Measuring Format and Style of Agricultural College Bulletins, Part I, Bulletin 7

the new 4-H leader is relatively unconcerned about variety and enrichment of the program though he may have an over-riding concern as to what to do and how to do it for his next club meeting. This new leader prefers specific suggestions to a "pick-and-choose" situation. He will be better satisfied and perform more competently when given a publication that conveniently fulfills his needs.

In contrast with this inexperienced leader, it is assumed that the experienced leader has mastered the routine techniques of conducting 4-H club meetings, perhaps not perfectly, but, to the extent that the typical meeting is easily handled. Therefore, the experienced leader will prefer a publication offering a variety of suggestions from which he may choose ideas that add variety and enrich his club program.

Sub-Hypotheses

As pointed out above, selected statistical sub-hypotheses were used in the study in support of the major hypothesis. These sub-hypotheses relate to leader accomplishment and leader satisfaction among first year leaders. They are related to the manner in which relevant information is presented in the two types of leader publications.

Relating to Accomplishment

1. The percentage of enrolled electric club members who complete electric projects will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.

Department of Agr. Journalism, University of Wisconsin, (Madison, 1936) p. 13.

2. The percentage of new electric leaders securing assistance from Extension agents, power supplier representatives, county project chairmen, junior leaders and other leaders will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.
3. The percentage of members who will learn the 4-H club pledge will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.
4. The number of recreation ideas used will be greater in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.
5. The percentage of new electric leaders conducting a local achievement program will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.

Relating to Satisfaction

1. The percentage of new electric leaders willing to lead a 4-H club next year will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.
2. The feeling of goal accomplishment will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.
3. The anticipated membership for the coming year will be higher in clubs where new electric leaders have used the Leader's Manual than

in clubs where new electric leaders have used the Leader's Idea Book.

4. The leader's rating of club performance on related program factors will be higher in clubs where new electric leaders have used the Leader's Manual than in clubs where new electric leaders have used the Leader's Idea Book.

Hypothesis Relating to Experienced Leaders

The previous hypotheses have been concerned primarily with the first year leader. While much of the general discussion is also applicable to the experienced leader, it is recognized that he is not faced with the same problems in the same way as the inexperienced leader. The experienced leader may be less concerned with specific directions and have a greater interest in general suggestions for activities and ideas that will add variety and enrich his club program.

The resulting theoretical hypothesis from this reasoning is:

More satisfactory experienced leader performance and satisfaction will result from use of a general topic-by-topic publication than from a specific meeting-by-meeting manual of procedure.

This is the opposite of the theoretical hypothesis for new leaders. It will be tested by reversing the same statistical hypotheses used for testing the publications with first year leaders.

Related Areas of Concern - Secondary Hypotheses

As a part of this study, information was collected on certain points related to the use of publications in addition to the major concern with publication content. This portion of the study included experienced leaders as well as new leaders in the data. Hypotheses

relating to all leaders, regardless of tenure in this aspect of the study are:

1. The usefulness of a leader publication to leaders is positively correlated with the amount and quality of explanation received regarding the use of the publication as judged by the leaders.
2. Usefulness of a leader publication is related to the degree of face-to-face personal contact in the presentation of a leader publication to the intended user. The means of presentation, whether by the Extension agent, another leader, at a meeting or by mail is correlated with usefulness of the publication as indicated by the user.
3. Leaders who do not attend leader training meetings make greater use of a leader publication than those leaders attending training meetings. This hypothesis is tested by asking both groups of leaders to rate the usefulness of their Leader's Manual or Leader's Idea Book.
4. A publication designed specifically for electric leaders will be considered more useful by electric leaders than will related reference publications. Here a comparison of the usefulness rating of the Leader's Manual or Leader's Idea Book will be made with a similar rating of related reference publications frequently used by 4-H electric club leaders.
5. The percentage of leaders willing to lead a 4-H club next year will be higher in clubs where leaders had assistance from County Extension Agents and/or Power Supplier Representatives than in clubs without this professional assistance.

These five secondary hypotheses, along with the nine statistical sub-hypotheses in support of the major theoretical hypothesis and the hypothesis concerning experienced leaders, are tested with the responses of Michigan 4-H electric leaders to a mail questionnaire. The following review of literature is helpful in further setting the framework of the study.

CHAPTER II

REVIEW OF LITERATURE

A search of literature has proven rather fruitless in terms of previous studies related to the use of manuals, guides or handbooks by leaders of youth groups. A few studies on communication via publications relate to this problem.

As an indication of the relative newness of this field of evaluation, Porter and Sumner, in 1936, reported:

> "A survey made of available literature dealing with the methods of bulletin building showed that little has been written on this subject. Few studies have been made regarding the best practices to follow to insure reader interest and reader understanding with such publications."[1]

Research since that time has added to the body of knowledge related to their general means of communication. However, specific comparative studies of the use of 4-H leader publications have not been found by this writer.

Several authors do present useful information under the broad category of leadership and some of their works are cited in reference to this study of 4-H club leader publications.

The need for successful involvement of the volunteer leader in 4-H club work was discussed in Chapter I. Commenting on the need for competent leadership in any voluntary organization, Sanderson believes:

---

[1]Porter and Sumner, Measuring Format and Style of Agricultural College Bulletins, Part I, (Madison: Department of Agricultural Journalism, University of Wisconsin, 1936), p. 2.

> The key to the group is the group leader. Hence, if the group life is to be permanently strengthened, the fundamental problem is to develop and strengthen its leadership. Unless real group leadership is developed, the work of the professional leader, however brilliant it may appear to be, will have but little permanent value to the group.[2]

Thoughts similar to the above are a frequent concern to every professional youth worker in Extension. Even successful efforts in leadership development and training satisfy professional workers only momentarily because of a recognized need for continued improvement. Sanderson again comments:

> As mankind has progressed in social organization, the fact that a leader is essential for group activity has been increasingly recognized, until the leader has come to be considered a necessary institution of all organized group life.[3]

These statements help to clarify the basic need for leadership in the local 4-H club and imply that the group leadership described is voluntary in nature. Certainly, this is the situation in 4-H club work.

Extension publications have been shown to be effective. A study by Gallup and Frutchey reported that, "... interviews with homemakers later showed that in general they read ... and used the information contained in them."[4] This study referred to the use of a leaflet style

---

[2]Dwight Sanderson, op. cit., p. 110.

[3]Ibid., p. 22.

[4]Gladys Gallup and F. P. Frutchey, "Readability of leaflets used in neighborhood-leader systems in North Carolina," Findings from Studies of Bulletins, News Stories and Circular Letters, F.E.S. Circular 488, ed. Lucinda Crile (Washington, D.C., Federal Extension Service, 1953), p. 3.

publication distributed in underprivileged communities. The usefulness of 4-H leader publications is brought out further in Chapter III.

More directly related to the 4-H publications study at hand, a Wisconsin study by E. C. Rowles on the use of subject-matter circulars and plans for demonstrations and discussion revealed that:

> Little time is spent at home preparing for meetings. Illustrations and simple charts are helpful. Simple words should be used. Plan sheets should be easily adaptable to meet local difficulties.[5]

The above report reflects, to a considerable extent, the philosophy of John T. Stone as he assisted in the preparation of the Leader's Manual used in this study and counseled with this writer in planning this study.[6]

A previously stated hypothesis in Chapter I was that the inexperienced leader desired specific directions for conducting his 4-H club program. An implication of Hall's study concerning specificity was that:

> Insofar as they can be given, people want answers to their questions. Details which seem obvious to authors should not be omitted .... Several respondents asked for a schedule which would give them something to work toward.[7]

---

[5]E. C. Rowles, "A Study of the Use Which Project Leaders Are Making of the Subject Matter Circular and Plans for Demonstrations and Discussion Supplied to Them for Teaching Purposes," Ibid, p. 6.

[6]Interviews with John T. Stone, Staff Training Officer, Michigan Cooperative Extension Service, January - March, 1959.

[7]Emilie T. Hall and others, A Study of Women's Opinions of Two Extension Homemaking Bulletins, (Ithaca, New York State College of Home Economics at Cornell University, December, 1958) p. 7.

From a reading of the Leader's Manual and Leader's Idea Book, it is apparent that the Leader's Manual is, in general, more specific in giving directions and answers while the Leader's Idea Book tends to give a choice of several possible answers or ideas for the leader.

Hall also indicated that, "Apparently people expect the table of contents in the bulletin-type publications to be up front . . . where readers probably tend to look for it."[8] This observation further supports the Leader's Manual which has a table of contents inside the front cover while the Leader's Idea Book has no table of contents (See Appendix C).

Spink[9] conducted a study related to the use of the Leader's Manual with interviews of 14 Jackson county 4-H leaders as a follow-up of this study. Of the leaders interviewed, 93 percent felt that the manual stated what a 4-H leader was to do. The same proportion indicated that the publication was convenient to use and that the information was adapted to the total 4-H program. Twelve of the fourteen interviewees stated that they would like to see the same type of organization used in other 4-H leader manuals.

Spink also found that 79 percent of the leaders interviewed followed the meeting outlines "completely" or "quite closely."[10] They also indicated that the publication was helpful because of the way it was organized and saved time in planning meetings. Spink also concluded

---

[8]Ibid, p. 6.

[9]Harold Spink, "Evaluation of 4-H Electrical Leader's Manual" (unpublished paper, Institute for Extension Personnel Development, Michigan State University, 1959) p. 2.

[10]Ibid, p. 3.

that the publication seemed to be of greater value to first and second year leaders than to more experienced leaders.

Efforts to discover research reports from other youth serving agencies utilizing leader publications, such as churches, Boy Scouts, Girl Scouts and the YMCA failed to show evidence of other studies of this nature. It appears to the writer that this is probably the first study in this area. However, the information presented in this brief review of literature does provide an orientation and background for the findings presented in the following chapters.

CHAPTER III

METHODOLOGY

A comparative approach was used for this study since the primary emphasis was on the comparative value of two types of publications to be used by first year 4-H electric club leaders. Leaders of 4-H electric clubs or electric project groups within community-type 4-H clubs were a readily available group for the study because new bulletins representing the two types of publications to be evaluated became available for 4-H electric leaders at about the same time.

Selecting the Study Group

Member enrollments for the previous year (1958) were studied and the 83 counties of the state were divided into two groups. Composition of the two groups of counties were equalized in so far as possible by a pairing of counties. Members of a pair were matched to the extent possible according to these criteria:

1. Number of electric club members.
2. Estimated number of electric club leaders.
3. Number of Extension Agents devoting full time to 4-H Club work.
4. Power suppliers serving the area.[1]
5. Geographic location in Michigan.

---

[1]Electric power suppliers serving Michigan are Consumers Power Company, Detroit Edison Company and several smaller private utilities and electric cooperatives.

This division of the counties, as shown in Table 1 and in detail in Appendix B, was intended to counteract bias which might possibly be induced by such factors as size of the electric program in the county, assistance to local clubs by Extension agents and power supplier representatives and geographic factors.

Table 1

Division of Michigan Counties According to Leader Publication Used in 1959, Number of 4-H Members, 4-H Leaders, 4-H Extension Agents in 1958 and Extension Districts of the State

Publication	Members Enrolled	Electric Leaders	Extension Agents	No. of Counties by districts				Total Counties
				E.	W.	N.	U.P.	
Leader's Idea Book	1520	306	29	10	11	12	8	41
Leader's Manual	1497	307	30	10	11	14	7	42
Totals	3017	613	59	20	22	26	15	83

The estimated number of electric leaders was based upon information in the county FES-21[2] for 1958, the same source used for actual member enrollment data. While fluctuations occurred between the base year, 1958, and the test year, 1959, it was necessary to assume that these variations would balance between the two groups.

One group of counties was assigned to receive the Leader's Idea Book, the other group was designated to receive the Leader's Manual.

[2]Form FES-21, Annual Report of County Extension Agents.

The Leader's Idea Book became available in early October of 1958 but it was not distributed until mid-November when the other publication was received. The two were distributed simultaneously to the respective counties. This timing of the distribution eliminated bias that might have been introduced had one publication been available to leaders earlier than the other. By the time that leaders received their publications from the county Extension office, many of them had already organized their clubs. While this may have influenced responses to certain parts of the questionnaire, there was no indication that such influence would be more pronounced for one group than for another.

Parenthetically, it should be pointed out that formal educational experiences of leaders was not included in this study as a control factor. Rather, it was assumed that this would be equalized between the two groups of leaders selected through pairing of counties by criteria discussed previously. Further indication that educational attainment would not influence results of this survey is given by Hall in her conclusion that, "As a group, the women with less schooling had used the bulletin to the same extent and in the same ways reported by the women with more schooling."[3]

Each county Extension office was asked to provide the names and addresses of all 4-H electric club leaders in their county during March, 1959 so that questionnaires could be mailed to all electric leaders in the state. All electric leaders in the state were surveyed in an effort to secure as complete coverage as possible. The number of responses

---

[3]Emilie T. Hall and others, Homemakers' Opinions of an Extension Bulletin, Bulletin Study, Part I, (Ithaca, New York State College of Home Economics at Cornell University, May, 1956), p. 5.

from this coverage was larger than a sampling of the population of electric leaders would have provided. It was intended that the larger number of responses would give greater opportunity to apply statistical analysis techniques to the data.

Developing the Questionnaire

A mail questionnaire was chosen as the most efficient means of obtaining the views of the many 4-H electric leaders located throughout the state in terms of time and money available. While the mail questionnaire is limited in scope to the written responses to prearranged questions, it has certain advantages. Among the advantages of mail questionnaires listed by Jahoda are:

1. Less expensive than the interview.
2. Requires less skill than interviewing.
3. Can be applied to large groups simultaneously.[4]

It is recognized than an interview offers greater flexibility, an opportunity to rephrase questions for better understanding and greater opportunity to evaluate the validity of responses. The interview is more effective in revealing complex or emotionally clouded areas. In comparison with many kinds of social research, this study is simple and direct rather than complex.

Illiteracy among potential respondents was not considered to be a problem. Jahoda also points out that, "The people who return questionnaires . . . are usually the more interested, the more literate, the more partisan section of the population."[5]

---

[4]Marie Jahoda, Morton Deutsch and Stuart W. Cook, Research Methods in Social Relations, (New York, The Dryden Press, 1951), p. 156.

[5]Ibid., p. 157-60.

Interest may have been a major factor in the return of questionnaires in this study in that the more interested leader may have been more likely to return the questionnaire. The writer doubts that literacy or partisanship were factors influencing questionnaire return. Considering the above advantages and disadvantages of the mail questionnaire technique, it was decided that this would be the best approach to polling the 4-H electric leaders of Michigan.

The development of the questionnaire was guided by several important factors.

1. Factors relating to the effect of publications about which information was desired.

2. Types of information that could be obtained by mail questionnaire.

3. Appearance, length and simplicity - factors that would encourage return of the questionnaire.

4. Control factors needed in the analysis.

5. Related information that would be worthwhile.

Several of the evaluation questions were designed to measure leader performance since improved leader performance is the primary purpose of leader publications.

The types of questions for the basic sections of the schedule were limited to those which could be answered by a check mark, a specific number, or by circling a number on a scale. They were either dichotomous or multiple choice in nature except those asking for a specific number, such as years of leadership experience or number of members enrolled. Only the last two questions were open-ended requiring a narrative answer on the part of the respondent. Statements designed to hold respondent interest were placed between groups of questions.

Many of the multiple choice questions were of a graphic rating scale type with the respondent being asked to circle one digit on the 1 - 8 scale to indicate his response. For example:

	Very High							Very Low
Member interest in the electric project	1	2	3	4	5	6	7	8

Upon completion of the preliminary form of the questionnaire, it was pre-tested with five local 4-H electric leaders in Ingham county. Each was personally given a copy of the questionnaire with a minimum verbal explanation and asked to complete the questionnaire. Time required for this varied from 12 to 20 minutes with an average of 15 minutes.

The reactions of these five respondents to the questionnaire was then received in an interview. During the pre-testing it was noted that respondents had a tendency to overlook entire pages of the five page questionnaire. Therefore, in the final version, each page was mimeographed on a different color of paper. Several clarifications and refinements in the wording of questions were then made in the instrument preparatory to mimeographing for the study itself.

The questionnaire was arranged in such a manner that it was self-coding for recording on IBM cards for columns 1-78 with the last two columns, 79 and 80, being hand coded from the narrative responses.

Obtaining the Information

Pre-numbered questionnaires were mailed on April 10, 1959 to 549 4-H people who were listed as volunteer electric leaders. A stamped envelope was enclosed with each questionnaire.

This mailing coincided with the time when most clubs would have recently completed their electric project work, or, in a few instances,

would be in the final stages of the project. A follow-up letter went to all non-respondents on April 28th. The combined response from these first two mailings was approximately 41 percent. On May 21st, another follow-up letter accompanied by another copy of the questionnaire was sent to the remaining 59 percent who had not previously replied. These three mailings resulted in a return of 333 questionnaires (63.8 percent response of total mailed) from electric leaders.

A tabulation of mailed and returned questionnaires follows:

Questionnaires mailed	549
Undelivered (unknown at address)	5
Questionnaires returned	350
Returned (not electric leaders)	17
Returned (electric leaders)	333
Percent response	63.8%

About five percent of the returned questionnaires were from people not currently leading 4-H electric clubs. It is quite possible that a somewhat larger percentage of the non-respondents might have been in this category in which case the true percentage of responses from the intended group would be even higher than the computed 63.8 percent.

Jahoda considers a 10 to 25 percent response typical of a random sample of the population and indicates the return is usually much higher from prestige groups.[6] The writer considers the response in this study

---

[6] Ibid., p. 159.

to be good. The original goal was a 50 to 60 percent return of questionnaires.

All questionnaires were reviewed prior to punching. Counting and sorting machine operations were performed by the writer.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The 4-H electric club leaders reported much worthwhile information concerning their clubs and their personal experiences as 4-H club leaders. A summary of the questionnaires returned is helpful in terms of understanding the data to be presented.

Table 2

Number of Questionnaires returned by Years of Leadership Experience and Leader Publication Used by Michigan 4-H Electric Leaders, 1959

Received Leader's Manual		122
First Year Leaders	47	
Experienced Leaders.	75	
Received Leader's Idea Book.		69
First Year Leaders	31	
Experienced Leaders.	38	
Received Both Publications		27
Received Neither Publication		92
Received a Publication, Experience Unknown		6
No Indication of Experience or Publication		17
Total		333

Those leaders indicating that they received no manual amount to over 27 percent of the respondents.

The 27 individual leaders who received both publications apparently received the Leader's Manual from the county Extension office and the Leader's Idea Book from commercial cooperators in most instances.

It is assumed that the respondents are probably representative of the entire 4-H electric leader population. Admittedly this may not be

the actual situation. However, no information is available upon which to base other conclusions or upon which corrective factors could be developed.

The difference in number of returns (122 vs. 69) from the two approximately equal sized groups of leaders was unexpected. Possible explanations of this are:

1. Additional copies of the Leader's Manual were available from the Extension Bulletin Office for counties scheduled to use the publication resulting in more leaders using this publication.

2. Some unscheduled counties secured copies of the Leader's Manual.

3. Users of the Leader's Idea Book were less inclined to return the questionnaire.

There seemed to be a tendency to avoid giving "unfavorable" answers and users of the Leader's Idea Book were observed to answer fewer questions on the returned questionnaires. Hence, it is concluded that they may have been less likely to return the questionnaire.

No factual information is available to clearly indicate the cause of this variation in response from the two groups of leaders. However, it is the feeling of the writer that at least the three above mentioned factors contributed to the situation.

Accomplishment of First Year Leaders

Five sub-hypotheses were concerned with first year 4-H electric leader performance or accomplishment with respect to the publication used. These hypotheses were concerned with member completion, persons who helped leaders, learning of the 4-H pledge, use of recreation, and conduct of local achievement programs. No specific weight or value is attached to any one of these measurements nor are they the only measurements that one might use.

Member Completion

Member completion would generally be considered as completing the project work, filling out a project report and making an exhibit of the project work at a public event.

The responses of the first year electric leaders indicates a significant difference in the percent of members completing their project as related to the publication used by the leader (see Table 3 which is derived from Appendix B data). Leaders using the Leader's Manual had a member completion of 83 percent while users of the Leader's Idea Book had 75 percent of their members completing electric projects.

Table 3

Average Number of 4-H Electric Members Enrolled and Completed According to the Leader Publication Used by First Year Leaders in Michigan During 1959

Members Enrolled and Completed	Publication Used: Leader's Manual (47 leaders)	Publication Used: Leader's Idea Book (31 leaders)	Totals
Members Enrolled	281	214	495
Members Completed	233	161	394
Percent of Members Completed[a]	83	75	80

[a] t = 2.162 Significant at the 5% level of confidence

As expected, these first year leaders had a smaller percentage of members completing than did experienced leaders using either publication (83 and 75 percent as compared with 90 and 86 percent)[1]. While experienced

[1] From Appendix B.

leaders could be expected to provide a more satisfying experience for members than first year leaders, it is probable that the inexperienced leader had, on the average, a higher percent of first year members. While it was beyond the scope of this study to analyze this situation in depth, experience of the writer indicates that a heavy drop-out occurs after one year of membership. Hence, the difference between percent of members completing for inexperienced and experienced leaders is due to more than leadership experience alone.

People Who Assisted New Leaders

The local volunteer 4-H club leader may have the help of others in the conduct of his club program. A series of questions was designed to elicit responses of the leaders in terms of their viewpoint as to who had helped them. Categories of assistance available included were: County Extension Agents, junior leaders, other leaders, county project chairmen and power company representatives, generally known as Farm Service Advisors or Customer Business Representatives. These percentages are based upon the number of leaders who responded to each question, omitting the "no response" group which was less than 10 percent of the combined total possible answers and in no instance more than 21 percent on a specific question for either group of leaders.

Users of the Leader's Manual indicated help from other leaders, county project chairmen and power company representatives more frequently than did users of the Leader's Idea Book as shown below. However, users of the Leader's Idea Book more frequently mentioned assistance from county Extension agents and junior leaders.

Table 4

Kinds of People Who Helped First Year Electric Leaders According to the Leader Publication Used by These Leaders in Michigan During 1959

People Who Helped	Publication Used				
	Leader's Manual N = 47		Leader's Idea Book N = 31		t test score[b]
	Percent	Number	Percent[a]	Number	
Junior Leaders	25	10	36	10	1.028
County Extension Agents	61	28	68	21	.636
Other Leaders	63	25	28	8	3.271[b]
County Project Chairmen	30	11	21	6	.909
Power Company Representatives	44	19	40	12	.354

[a]All percentages are expressed as percent of those answering

[b]t = 2.000, for significance at the 5% level of confidence

Statistically, users of the two publications differed significantly only with respect to assistance from other leaders. A t test score[2] of 3.21 shows, with reasonable assurance, that users of the Leader's Manual were more likely to have help from other leaders. While the publications were designed to encourage this type of help, a reading of the publications provide no reason to believe that the manual was the sole cause of this relationship since it did not significantly affect

[2]Significant at the 5% level of confidence

assistance from other groups of people. It is quite possible that this difference is due primarily to several clubs having two or more leaders each.

Effect of Manual Upon Members Learning the 4-H Pledge

No difference was noted between the two groups of first year leaders with respect to the percentage of their respective memberships who knew the 4-H club pledge. In both instances 87 percent of the 4-H club members were reported as knowing the pledge.

Use of Recreation Ideas

The use of recreation as part of the 4-H club program has received increased emphasis during the past ten years because of its value to social growth of individuals and its interest-holding effect. Both publications included recreation ideas, each according to the basic format of the individual publication. The Leader's Manual listed ten different games, one or two being included in each meeting outline. Twelve games were included in the Leader's Idea Book, eleven of them being in the appendix.

First year electric leaders were asked to indicate the number of different games or recreation ideas used in their club during the year (see Table 5). While slightly less than half of the leaders in each category indicated use of recreation, among those who did indicate use of recreation, significantly more ideas were used by leaders who had the use of the Leader's Manual.

The standard of one new recreation idea being introduced at alternate meetings for fourteen meetings or a standard of seven ideas during the club year was used as the desirable standard.[3] Users of the

---

[3]The standard given by Arden M. Petersen, Recreation Specialist, 4-H

Table 5

Number of Games and Recreation Ideas Used by First Year 4-H Electric Leaders in Michigan as to Type of Leader Publication Used in 1959

	Publication Used	
	Leader's Manual N = 47	Leader's Idea Book N = 31
Number of leaders reporting	21	14
Percent of leaders reporting	45%	44%
Total ideas reported	122	64
Average number of games and recreation ideas used per answering leader	5.81	4.57
Percent increase by use of Leader's Manual over use of Leader's Idea Book.[a]	27% $t = 2.571$[b]	

[a]Formula used for computing was

$$\frac{\text{Leader's Manual minus Leader's Idea Book}}{\text{Leader's Idea Book}} = \frac{5.81-4.57}{4.57}$$

[b]Significant at the 5% level of confidence

Leader's Manual with an average of 5.81 ideas per reporting leader scored 83 percent while users of the Leader's Idea Book with 4.57 ideas performed at the 65 percent level. Application of the t test to these percentages gives a score of 2.571 indicating a significant[4] difference in the use of recreation when based upon these arbitrary standards.

Club Program, Michigan State University, is 7 - 10 different games and recreation ideas.

[4]Significant at the 5% level of confidence.

Local Club Achievement Programs

An accepted means of encouraging future 4-H club work in a community is for the local club to conduct an achievement program in the community. Characteristically, this event is an opportunity for parents, friends, neighbors and relatives to view projects on display and to see the club members perform. The frequency of local club achievement programs did not vary significantly between the two groups as shown in Table 6.

Table 6

Frequency of Local 4-H Club Achievement Programs According to Leader Publication Used by First Year Electric Leaders in Michigan During 1959

	Publication Used			
	Leader's Manual		Leader's Idea Book	
	Number	Percent[a]	Number	Percent
Achievement Program Held	27	63[b]	16	62[b]
No Achievement Program Held	16	37	10	38
No Answer	4	—	5	—
Totals	47	100	31	100

[a]Percent of those answering.

[b]Not significant

Satisfaction of First Year Leaders

Four sub-hypotheses relate to leader satisfaction in this report. They pertain to willingness of the respondent to lead a club again, a feeling of goal accomplishment, satisfaction of club performance and an

anticipation of a larger club enrollment for the coming year. Again, these are not the sole criteria by which leader satisfaction could be measured. They were used in this study because they were subject to an evaluation of this sort and are significant factors in leader satisfaction.

Willingness to Continue 4-H Club Leadership

Differences with respect to the willingness of first year leaders to lead a 4-H club the next year, when related to the use of a leader publication, are indicated in Table 7. Assuming that some respondents

Table 7

Percent of first year 4-H electric leaders in Michigan willing to lead a 4-H electric club next year by type of publication used in 1959

	Publication Used			
	Leader's Manual		Leader's Idea Book	
Willing to lead a club next year	Yes	36	Yes	19
	No	6	No	7
	NR	5	NR	5
	Total	47	Total	31
Percent answering who are willing to lead a club next year	85.7		73.1	
Percent of total group who are willing to lead a club next year	76.5		61.3	

felt a "no" answer to be unfavorable, it is likely that the "no response" group is less likely to continue 4-H club leadership than the average of those answering the question. Comparing the "yes" answers with the total in each group, there is a relatively high percentage (76.5 percent) who

are willing to lead a club next year among those who used the Leader's Manual. By comparison, only 61.3 percent of those using the Leader's Idea Book are willing to continue club leadership. Application of the t test gave an answer of $t = 1.36$ which would be significant at the 20 percent level but fails to meet the prescribed 5 percent standard. Similarly, omitting the "no response" category results in $t = 1.42$ which is not significant. It was beyond the scope of this study to determine the correlation between "willingness to continue" and actual continuation of 4-H club leadership.

Goal Accomplishment

Leaders were asked to indicate the extent to which they felt their objectives for the club were accomplished. Wording of the question was, "Likely you, as a leader formed some ideas early in the year regarding what you hoped the club would accomplish. How well do you feel these objectives were accomplished by the club?" Responses to this question are indicated in Table 8.

Similar degrees of satisfaction in goal accomplishment are indicated by users of each publication among first year 4-H electric leaders. It is apparent that proportionately more leaders using the Leader's Manual answered "very well" (36 percent) though this appears to be somewhat compensated for by frequent answers of "moderately well" (51 percent) by users of the Leader's Idea Book.

Table 8

Goal Accomplishment As Reported by First Year 4-H Electric Leaders in Michigan as to Type of Leader Publication Used in 1959

Response	Publication Used			
	Leader's Manual		Leader's Idea Book	
	Number Responding	Percent	Number Responding	Percent
Very Well	17	36	6	20
Moderately Well	18	38	16	51
Some Accomplishment	12	26	4	13
Little Accomplishment	0		1	3
No Response	0	0	4	13
Totals	47	100	31	100

Anticipated Club Membership

An indicator of a successful 4-H club program used in the study was estimated club enrollment (Table 9) for the next year. This indicator tends to reflect both member and leader satisfaction with 4-H experiences as seen by the leader. Leaders using the Leader's Manual anticipated an increase of 10 percent in club membership for the coming year while users of the Leader's Idea Book forecast a decline of three percent in membership. The difference in club membership between the two groups (.92 members per club) for the past year is not considered as being influential upon future enrollment in this instance. Proportionately fewer leaders using the Leader's Idea Book answered the

Table 9

Expected Club Membership for the Coming Year as Reported by First Year 4-H Electric Leaders in Michigan According to the Leader Publication Used in 1959

	Publication Used	
	Leader's Manual N = 47	Leader's Idea Book N = 31
Average club enrollment, 1959	5.98	6.90
Average expected club enrollment, 1960	6.59	6.68
Average numerical change per club	+.61	-.22
Percent change per club	+10[a]	-3[a]

[a]Significant at 5% level of confidence.

question relative to future club membership than did leaders using the Leader's Manual.

Leaders Rate Their Clubs

First year leaders using each publication were asked to rate their club according to several categories, each of which could be an indication of leader effectiveness and accomplishment in the community. This rating was done on a scale graduated from 1 to 8, with "1" being the highest rating (see Table 10, next page).

In thirteen of the sixteen rating categories, users of the Leader's Manual rated their clubs higher than did users of the Leader's Idea Book. In two categories this rating was reversed and one was given equal rating by both groups.

Table 10

First Year Michigan 4-H Electric Leader's Ratings of Their Club's Performance on Related Factors According to the Leader Publication Used in 1959

Scale: 1 = Very High, 8 = Very Low

Leader's rating of his club's performance on:	Leader's Manual	Leader's Idea Book
1. Member cooperation with leader	2.3	2.7
2. Member satisfaction with electric project	2.4	2.9
3. Quality of work done by members	2.4	3.0
4. Member interest in the electric project	2.6	2.6
5. Member satisfaction with other club activities and experiences	2.6	3.1
6. Responsibilities assumed by members	3.0	4.1
7. Conduct of business meetings	3.3	3.4
8. Electrical safety knowledge	3.4	3.3
9. Proper care of electrical equipment	3.5	3.7
10. Parent cooperation with leader	3.6	4.1
11. Knowledge of electricity	4.1	4.4
12. Variety of club program	4.1	4.6
13. Recreation included at club meetings	4.3	5.3
14. Club publicity	4.4	5.2
15. Extent to which parents assisted with the club program	4.7	5.0
16. Use of demonstrations	5.2	4.3
Weighted Mean[a]	3.38	3.79
Unweighted Mean[b]	3.49	3.86

[a]Mean of all responses to all questions

[b]Mean of 16 factor means

Mean scores for the two groups of leaders are relatively close, with the maximum difference being 1.1 between groups on a single question. The difference between the weighted means of the two groups was 0.41 with users of the Leader's Manual giving their club a more favorable rating by this margin. The weighted mean for all respondents on all 16 questions was numerically lower or more favorable than was the unweighted mean indicating a reluctance to answer questions where the respondent would give an unfavorable rating. Statistically, there was no significant difference between the two publications. Eighty-nine percent of these 16 rating questions were answered by members of each group.

Experienced Leaders Evaluated

A preliminary inspection of tables in Appendix B (summarized in Table 11) indicates a possibility that the reverse of the major hypothesis of the study may be true for experienced leaders. That is, a general topic-by-topic leader's publication is superior to a specific meeting-by-meeting outline for experienced 4-H electric club leaders in terms of leader satisfaction and accomplishment.

Those experienced leaders using the Leader's Idea Book indicated more satisfactory accomplishment of goals, expect a larger increase in their club enrollment, have a higher percent of members knowing the club pledge, used more games and recreation ideas, and scored their clubs higher on the 16 point composite of club evaluation factors. However, experienced leaders using the Leader's Manual had a higher percent of members completing, are more willing to lead a club next year, and more frequently held local achievement programs. Both groups gave the same usefulness rating to the leader publication provided them. This summary

Table 11

Accomplishments and Satisfactions of Experienced Michigan 4-H Leaders in Relation to the Publication Used in 1959

Evaluation Category	Leader's Manual N=75	Leader's Idea Book N=38	*t* test score[a]
Percent of members completing	90	86	.61
Accomplishment of goals--percent responding "very well" and "moderately well"	77	81	.50
Percent willing to lead a club next year	90	85	.75
Percent reporting local achievement program held	76	52	2.53[b]
Percent of members knowing 4-H pledge	89	93	.73
Percent increase in membership expected	-4	16	3.12[b]
Number of games and recreation ideas used	5.8 (82.9%)[c]	6.7 (95.9%)[c]	2.41[b]
Rating of club by the leader (Mean score on 16 factors)	3.55 (63.6%)[d]	3.20 (68.6%)[d]	---
Usefulness of leader publication (Mean score)	2.8	2.8	---

[a]*t* = 2.000, for significance at the 5% level of confidence.

[b]Significant

[c]Based on selected optimum of 7 games and ideas.

[d]Percentage scores were derived from 1 to 8 scale (with seven intervals), each interval being equivalent to 14.286 percent, and 1 being equal to 100 percent. Example of computation: 8 - 3.55 = 4.45, 14.286% x 4.45 = 63.6 percent.

indicates that each group was superior to the other on certain points. Neither publication can be considered superior to the other when all factors tested are considered.

General Information Relating to Use of Leader Publications

Certain areas of general information relating to the use of leader publications were explored. These areas related to the amount and quality of explanation given for the use of the publication, usefulness in relation to attendance at leader training meetings, value in relation to other publications used, and usefulness in relation to the manner in which the publication was received by the leader.

Amount and Quality of Explanation

Leaders were asked to indicate the amount of explanation[5] given them for use of the leader publication and to evaluate the quality[6] of that explanation (Table 12). Responses to the two questions were grouped, for purposes of determining the usefulness of the publication, into sixteen (4x4 table) groups plus the group who had no explanation. This last group therefore gave no rating on the quality of their explanation. Only very high usefulness ratings (Categories 1, 2, and 3 on a scale of 1 to 8) are recorded from question 41 (Appendix B). As indicated, only 43 percent of the leaders having "none" or "some" explanation of the use of the publication indicated that the publication was very useful to them. Of those leaders having a "moderate" or "complete" explanation, 67 percent rated the publication very useful. Significance of this difference is shown by a t test score of 3.20.[7]

---

[5]Amount of explanation categories were: none, some, moderate and complete, question 22, Appendix A.

[6]Quality of explanation categories were: poor, fair, good and excellent, question 23, Appendix A.

Table 12

Michigan 4-H Electric Leaders Very Useful[a] Ratings on Usefulness of Their Leader Publication in Relation to the Amount and Quality of Explanation Received for Using The Publication in 1959[b]

		Amount of Explanation				Totals	
		1 None	2 Some	3 Moderate	4 Complete		
Quality of Explanation	1 None	39(72)	...	...	...	39(72)	49(100) 49%
	2 Poor	2(4)	0(0)	0(0)	0(0)	2(4)	
	3 Fair	1(3)	4(14)	3(7)	0(0)	8(24)	
	4 Good	0(1)	18(31)	22(29)	3(8)	43(69)	56(87) 64%
	5 Excellent	0(0)	1(2)	2(2)	10(14)	13(18)	
Totals		42(80)	23(47)	27(38)	13(22)	105(187)	
		55(127) 43%		40(60) 67%			

[a]Very useful = 1, 2 or 3 on 1 - 8 scale.

[b]Lower left number is number of leaders rating usefulness of publication as very useful. Number in parentheses is total number of leaders in that amount-quality group.

Similarly, with respect to quality of the explanation of those having "none," "poor" or "fair" explanations, only 49 percent found the publication very useful. Sixty-four percent of the leaders having a "good" or "excellent" quality explanation reported the publication as

very useful. This difference is significant as indicated by the *t* test score of 2.098.[8]

A further simplification of Table 12 is also revealing (Table 13). Disregarding the "middle-ground" response to amount-quality ratings

Table 13

Summary of Publication Usefulness for Michigan 4-H Electric Leaders in Relation to Amount and Quality of Explanation Received for Using the Publication During 1959 (Based on Table 12)

		Amount of Explanation			
		1	2	3	4
Quality of Explanation	1	Combined cells from Table 12			
	2	46(94)			a
	3	49%		a	38(55)
	4		a		69%
	5	a	Combined cells from Table 12		

[a]These cell positions omitted from table 12 to compute table 13.

results in two groups, those having relatively positive amount-quality ratings and those having relatively negative amount-quality ratings. This classification of explanation ratings as related to usefulness shows that only 49 percent of those leaders giving "negative" responses to

[8]Significant at the 5% level of confidence.

explanation questions rate the publication as very useful. Contrasted with this, 69 percent of those giving positive responses regarding explanation rated the publication as very useful. Significance is indicated.[9]

Attendance at Training Meetings in Relation to Usefulness of the Publication

Leaders were asked to indicate the number of training meetings attended during the project year according to two categories, meetings primarily for the electric program and meetings for 4-H club work in general. Responses of all leaders, regardless of publication used, are shown in Table 14.

Table 14

Attendance at 4-H Leader Training Meetings According to Type of Meeting and Frequency of Attendance by Michigan 4-H Electric Leaders During 1959

		Meetings Primarily for Electric Program		
		One or More Meetings Attended	No Meetings Attended	Totals
Meetings for 4-H Club Work in General	One or More Meetings Attended	(Group I) 62	(Group III) 40	102
	No Meetings Attended	(Group II) 41	(Group IV) 70	111
	Totals	103	110	213

[9]Significant at the 5% level of confidence.

Attendance at training meetings primarily for the electric program is independent of attendance at meetings for 4-H club work in general as tabulated in Table 14. This is shown by application of the Chi square test[10] resulting in $x^2 = 11.5$ which is significant. The "very useful" answers regarding either the Leader's Manual or Leader's Idea Book from these four groups of leaders classified according to training meeting attendance are shown in Table 15.

Table 15

Usefulness of 4-H Leader Publication in Relation to Training Meeting Attendance by Michigan 4-H Electric Leaders in 1959

	Group I	Group II	Group III	Group IV
Percent of Leaders Rating Publication Very Useful	71%	65%	70%	83%
	N=62[a]	N=41	N=40	N=70
	NR=4[b]	NR=1	NR=10	NR=16

[a]N = number of leaders in group (from Table 14)

[b]NR = no response

A combination of all respondents who had attended any type of leader meeting (Group I, II, and III) indicated that 69 percent rated their leader publication as useful. In comparison, 83 percent of those who attended no training meeting gave a "very useful" rating to leader publications. A t test score of 2.333 indicates significance.[11]

---

[10]One degree of freedom, 5% level : $x^2 = 5.02$

[11]Significant at the 5% level of confidence.

Other Publications Compared

The hypothesis was that a publication written specifically for electric club leaders would be rated more useful than would other publications which leaders might use in the normal conduct of their program. Each of these other publications was readily available to most 4-H electric leaders, either from Extension offices or from power supplier representatives. The mean scores computed from answers on a 1 to 8 scale for the usefulness of several publications are reported in Table 16. Three out of the four groups of leaders indicated a higher rating of the leader publication (Leader's Manual or Leader's Idea Book) than for any of the other five publications listed. In the one instance where the Leader's Idea Book did not receive the highest rating, it was exceeded in value by only one of the five other publications, namely the Member's Project Bulletin.

Means of Presentation of the Leader Publication

It would seem that personal contact between the provider and user of a leader publication might have influence upon the subsequent usefulness of the publication. Therefore, leaders were asked whether they received their publication from an Extension agent, from another leader, at a meeting, or by mail. Usefulness of the publication for each means of procurement was then tabulated (See Table 17).

This table indicated that leaders find the publication most useful when presented to them by the Extension agent or another leader. A *t* test score of 1.982 indicates the differences are significant,[12] when grouped as shown in the table.

---

[12]Significant at the 5% level of confidence.

Table 16

Relative Usefulness of Publications Commonly Used by Michigan 4-H Electric Club Leaders According to 4-H Leadership Experience

(Mean Scores on 1-8 Scale, 1 = Most Useful, 8 = Least Useful)

Publication	Leader's Manual		Leader's Idea Book	
	First Year Leaders	Experienced Leaders	First Year Leaders	Experienced Leaders
Leader's Manual or Idea Book	2.2	2.8	2.5	2.8
Member's Project Manual	2.7	3.2	2.8	2.3
Michigan 4-H Leader's Guide	3.6	3.4	2.6	3.1
Wiring Simplified	3.0	3.3	2.6	3.5
Electrical Demonstrations You Can Perform	3.5	3.5	3.0	3.0
Electrical Equipment You Can Build	3.5	3.3	3.1	2.8
Mean score of five publications other than Leader's Manual or Idea Book	3.26	3.32	2.82	2.94

Table 17

Usefulness of 4-H Leader Publications by Means of Procurement by Michigan 4-H Electric Leaders in 1959

Procurement	Leaders Indicating Very Useful on 1-8 Scale					Mean Rating on 1-8 Scale	Percent Usefulness Score
	Number of Responses	1 & 2 on scale		1, 2 & 3 on scale			
		Per-cent	No.	Per-cent	No.		
During a personal visit with an Extension agent	42 NR=6	80	28	83	29	2.11	85.0%
From another leader	18 NR=4	65	9	86	12	1.93	
By mail	82 NR=10	54	39	72	52	2.78	73.3%
At a meeting	65 NR=6	51	30	64	38	3.00	

Training Meeting Attendance as Related to Continuation of Club Leadership

It seems important to briefly relate one point of information regarding attendance at training meetings with respect to willingness to continue club leadership since the information is readily available from data compiled.

Whether or not the "no response" leaders are included in the comparison, a higher percentage of leaders attending both project subject matter meetings and general 4-H leader training meetings are willing

Table 18

Training Meeting Attendance in 1959 by Michigan 4-H Electric Leaders as Related to Willingness to Lead a 4-H Club Next Year

Respondents Included	Group I Attended electric and general 4-H training meetings N=62 NR=9		Group II Attended electric training meetings only N=41 NR=6		Group III Attended general 4-H training meetings only N=40 NR=4		Group IV Attended no training meetings N=70 NR=9	
	Percent	No	Percent	No.	Percent	No.	Percent	No.
Percent "Yes" of total in group	84	51	68	28	65	26	67	47
Percent "Yes" of those answering	96	51	80	28	72	26	77	47

to lead a club next year than are leaders who attended only one type of training meeting or no training meetings. Significance of these percentages is shown by a t test score of 2.833, significant above the 5 percent level.

Professional Assistance to 4-H Leaders

As indicated earlier, leaders reported whether or not they had assistance from County Extension Agents and Power Supplier Representatives. Including all respondents to these questions, whether or not a leader publication was used, the "willing to continue club Leadership" data is reported in Table 19.

Table 19

Percent of Michigan 4-H Electric Leaders Willing to Continue 4-H Club Leadership as Related to Assistance from County Extension Agents and Power Supplier Representatives

		County Extension Agent Assistance		
		Yes	No	Totals
Power Supplier Representative Assistance	Yes	92(104)[a]	85(27)	91(131)
	No	81(58)	77(65)	79(123)
Totals		88(162)	79(92)	85(254)

[a]Number in parentheses is total number of respondents reporting this source of assistance. Number outside parentheses is percent willing to continue club leadership.

Those leaders indicating professional assistance from both sources were more likely to continue club leadership by a significant margin (t = 3.00).[13] Considering all leaders who had assistance from either or both professional sources in comparison with those who had no assistance from these sources, the plans for continued leadership were significantly different (t = 2.24).[14]

[13]Significant at the 5% level of confidence.

[14]Significant at the 5% level of confidence.

CHAPTER V

STATISTICAL PROCEDURES

Certain assumptions were made at the beginning of the study regarding the two groups of electric club leaders identified to receive the publications to be tested. These assumptions relate primarily to the leaders themselves. It was assumed that the pairing of counties as explained earlier would equalize the groups with respect to age, educational attainment, training opportunities available, community environment and possible unknown influences in so far as these factors might bias the study.

Analysis of the data includes a comparison of actual numbers in various categories, the use of percentages and averages, the application of the statistical t test for significance, use of the Chi square statistic and the discriminate function technique. The five percent level was arbitrarily selected as the confidence level of acceptance or rejection in the statistical analysis. While other levels might be chosen, this level of significance is widely used and is perhaps the most frequently applied standard in statistical analyses of this nature. The formula used for the t test on all percentages in this study was given by Baten[1]:

$$\sigma_{p_1} = \sqrt{\frac{p_1(1-p_1)}{N_1}} \quad \text{and,} \sigma_{p_2} = \sqrt{\frac{p_2(1-p_2)}{N_2}}$$

---

[1]William D. Baten, Experiment Statistician, Michigan Agricultural Experiment Station, from an interview.

$$\sigma_{(p_1-p_2)} = \sqrt{\sigma_{p_1}+\sigma_{p_2}}$$

$$\underline{t} = \frac{(p_1 - p_2) - 0}{\sigma_{(p_1 - p_2)}} \geq S$$

Where p_1 and p_2 are the percents being tested expressed as a decimal, N_1 and N_2 are the corresponding number of respondents and S is the statistic for significance taken from a table of percentiles of the t distribution in Dixon and Massey.[2]

The formula used for the Chi square test indicating independence between attendance at the two types of leader training meetings was taken from Dixon and Massey[3] and is as follows:

$$\underline{x}^2 = \frac{(|ad-bc|-\frac{1}{2}N)^2 N}{(a+b)(a+c)(b+d)(c+d)}$$

Where a, b, c and d represent the frequencies found in each of the four cells in a 2 x 2 table.

Leader rating of usefulness of the various types of information contained in the two publications was obtained in the survey (questions 24-35, Appendix A; data, Appendix B). Application of the t test did not indicate significant differences between the two publications for any of these factors.

Application of a discriminate function as discussed by Baten[4] was

---

[2]Wilfred J. Dixon and Frank V. Massey, Jr., Introduction to Statistical Analysis, (New York: McGraw-Hill Book Company, Inc., 1957), p. 384.

[3]Ibid., p. 222.

[4]William D. Baten, Merle Ford and Ruth M. Heitz, The Use of a Discriminate Function in Textile Research, Reprinted from Textile Research Journal, XX, No. 12, December 1950.

conducted. This permitted comparing several variables pertaining to one group with the same composite of variables pertaining to another group. This statistical technique permits discrimination (if such difference exists) between two items (publications) based upon several kinds or composites of measurements in combination.

For purposes of simplification, nine of the eleven questions were selected to form three groups of three questions each. Each group contained questions on related types of information. A summary of data from this technique is shown in Table 20.

Table 20

Analysis of variance pertaining to the discriminate functions as applied to Michigan first year 4-H electric leaders ratings of selected types of information from two publications

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square
Total	47[a]	$D\left[1+\frac{N_1 \times N_2}{N_1 + N_2} D\right] = .028678$	
Between Publication means	2	$\frac{N_1 \times N_2}{N_1 + N_2} D^2 = .0000069$	.000039
Within Publications	45	$D = .002621$	.000058

[a]Number of respondents, less one. This number of respondents is less than the total of 78 first year leaders as only respondents who had answered all nine questions in the composite could be included.

The difference of these mean squares is not significant.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This study was primarily an evaluation by comparative methods of two types of publications for the use of local volunteer 4-H club leaders. Emphasis was placed upon usefulness of the publication to the first year leader as related to organization and content of the publication. The essential role of the leader is to be a teacher. To fulfill this educational role he needs knowledge of what to do and how to do it in the organizational framework of the 4-H club program.

Hypotheses tested in the study related to the satisfaction and accomplishment of first year 4-H electric leaders in Michigan according to the publication used. The publications compared were the Leader's Manual, a specific meeting-by-meeting outline and the Leader's Idea Book, a general topic-by-topic publication. Experienced leader use of the publications was evaluated in a similar manner and other concerns regarding leader publication use and influence were also studied.

A mail questionnaire was used to provide wide coverage of the 4-H electric leaders in Michigan. A questionnaire return of 63.8 percent provided information from 333 leaders to be used according to appropriate groupings in the analysis performed.

Twenty-seven percent of the leaders responding received neither of the publications. This indicates a serious distribution problem at the county level since all county offices received a direct shipment from the Bulletin Office at Michigan State University. Recognizing that

a part of this problem may be due to the delayed availability of the publications, it would still seem, on the basis of this one instance, that further study might be given this area of concern.

Summary of Findings

In general, first year 4-H electric club leaders indicated greater usefulness of a specific type of publication with a meeting-by-meeting outline than of a general type of publication organized by subject matter sections.

Member completion was shown to be somewhat better (83% to 75%) by first year leaders using the Leader's Manual than by users of the Leader's Idea Book. This difference was statistically significant within the prescribed standards of this study.

The use of recreation ideas among first year 4-H electric leaders who reported this as a part of the local club program was shown to be greater by those leaders who used the Leader's Manual indicating that these ideas are most likely to be used when incorporated as a part of a specific meeting outline for the leader to follow.

First year 4-H electric leaders using the Leader's Manual were more likely to indicate a willingness to continue 4-H club leadership the following year (86% to 73%). However, this difference was not significant.

Other areas in which new leaders scored higher when using the Leader's Manual than when using the Leader's Idea Book were in the holding of local club achievement programs, goal accomplishment as defined by the leader, expected club membership the following year and a composite of factors in rating their club's performance. However, in none of these instances was the difference statistically significant.

Considering the evidence available, there is indication that the specific meeting-by-meeting outline of procedures as presented in the Leader's Manual results in better first year leader performance than the general format of the Leader's Idea Book.

This pattern did not hold true for experienced leaders of 4-H electric clubs. Here users of the Leader's Idea Book scored significantly higher on two points. These factors were the use of games and recreation ideas and their expected club enrollment for the next year. They also expressed a feeling of greater goal accomplishment, had more of their members knowing the 4-H club pledge and rated their clubs higher on a composite scoring of selected club performance factors.

At the same time, experienced leaders using the Leader's Manual more frequently held local achievement programs by a statistically significant margin. These leaders also had a higher rate of member completion and were more apt to indicate a willingness to continue their club leadership responsibilities. All factors considered, the two publications are of about equal value for experienced leaders on the basis of information obtained.

More decisive findings of the study apply to areas related to the use of leader publications.

Leader publications were considered to be useful by a considerably higher percentage of leaders who had a thorough explanation of good quality than among leaders who had inadequate explanations of their use. This indicates the value of a thorough explanation of a leader publication at the time it is presented to the intended user.

Leaders who did not attend training meetings indicated greater usefulness of their leader publication than did those who attended training meetings. This indicates that publications can be an important aspect of leader training. However, training meeting attendance deserves high priority. The providing of leader publications to non-attendees as well as to those attending can be helpful to the program.

There was some evidence, not statistically significant, to indicate that publications prepared specifically for 4-H electric leaders are more useful than other resource publications. However, other publication resources were also rated as being helpful.

Personal, face-to-face contact in giving a publication was shown to result in greater usefulness of the publication to the recipient. A usefulness rating score of 85 percent was given the publication when it was received during a personal visit with the Extension agent or from another leader. A statistically significant lower usefulness score of 73.3 percent was given when the publication was received at a meeting or by mail.

Training meeting attendance was found to be positively related to continued 4-H club leadership. Plans for continued 4-H club leadership were also positively correlated to a feeling of having had professional assistance from a County Extension Agent or Power Supplier Representative.

Recommendations

As a result of this study, the writer would propose the following recommendations for those people concerned with the preparation and use of publications for 4-H club leaders.

1. First year leaders should be provided with a publication containing specific meeting-by-meeting suggestions as to what the leader and his club might do.
2. Supplementary ideas should be provided following the meeting outline portion of the publication, primarily for the benefit of experienced leaders who are looking for additional material to broaden and enrich their club program.
3. Where possible, the various states will benefit from the preparation of manuals of a specific nature for leaders of various 4-H projects. However, in those projects where a sizeable proportion of the states do not have this type of publication, national efforts to produce a publication sufficiently broad in nature to accommodate most states is desirable and should be encouraged.
4. In order to obtain the greatest possible benefit from leader publications, their use should be adequately explained to the leader in a face-to-face situation at the time of presentation to the leader.
5. Use of leader publications and attendance at training meetings should be encouraged as a means to better club programming and increased leader tenure.

B I B L I O G R A P H Y

BIBLIOGRAPHY

Books

Baxter, Bernice and Cassidy, Rosalind, Group Experience the Democratic Way (New York; Harper and Brothers, 1943).

Biddle, William W., The Cultivation of Community Leaders (New York; Harper and Brothers, 1953).

Browne, C. G. and Cohn, Thomas S., Editors, The Study of Leadership (Danville, Ill., The Interstate Printers and Publishers, 1958).

Burr, Walter, Community Leadership (New York; Prentice Hall, 1929).

Burch, Henry M., Leadership in Group Work (New York; Association Press, 1934).

Dixon, Wilfred J., and Massey, Frank J., Jr., Introduction to Statistical Analysis (New York; McGraw-Hill Book Company, Inc., 1957).

Fiedler, Fred E., Leader Attitudes and Group Effectiveness (Urbana; University of Illinois Press, 1958).

Goode, William J. and Hatt, Paul K., Methods in Social Research (New York; McGraw-Hill Book Company, Inc., 1952).

Jakoda, Marie; Deutsch, Marton and Cook, Stuart W., Research Methods in Social Relations, Parts One and Two (New York; The Dryden Press, 1951).

Lindeman, E. C., The Community (New York; Association Press, 1921).

Partner, Mildred, Surveys, Polls and Samplers (New York; Harper and Brothers, 1950).

Roberts, Dorothy M., Leadership of Teenage Groups (New York; Association Press, 1950).

Sanderson, Dwight, Leadership for Rural Life (New York; Association Press, 1940).

Solomon, Ben, Leadership of Youth (Putnam Valley, N.Y., Youth Services, Inc., 1930).

Zeisel, Hans, Say It With Figures (New York; Harper and Brothers, 1947).

Articles and Periodicals

Agrisearch, II, No. 1, National Project in Agricultural Communications, East Lansing, 1956.

Extension Service Review, XXX, No. 4, Leadership Development Issue, Federal Extension Service, U.S.D.A., Washington 25, D.C., 1959.

Jayner, Christian, "Leadership Studies," Psychological Monographs, American Psychological Association, Inc., LXX, No. 70, 1956.

Bulletins and Reports

Federal Extension Service Form 21, Annual Statistical Reports of Michigan Counties, 1958.

Gallup, Gladys and Frutchey, F. P., "Readability of leaflets used in neighborhood-leader systems in North Carolina," Findings for Studies of Bulletins, News Stories and Circular Letters, F.E.S. Circular 488, ed., Lucinda Crile (Washington D.C., Federal Extension Service, 1953.

Hall, Emilie T. and others, A Study of Women's Opinions of Two Extension Homemaking Bulletins, Ithaca, New York, State College of Home Economics at Cornell University, December 1958.

Hall, Emilie T. and others, Homemaker's Opinion of an Extension Bulletin, Bulletin Study, Part I; Ithaca, New York, State College of Home Economics at Cornell University, May 1956.

Porter, Wilford D. and Sumner, W. A., Measuring Format and Style in Agricultural College Bulletins, Part I, Bulletin 7, Department of Agricultural Journalism, University of Wisconsin; Madison, 1936.

Rowles, E. C., "A Study of the Use Which Project Leaders are Making of the Subject Matter Circular and Plans for Demonstrations and Discussion Supplied to Them for Teaching Purposes," Findings for Studies of Bulletins, News Stories and Circular Letters, F.E.S. Circular 488, ed., Lucinda Crile, Washington, D.C., Federal Extension Service, 1953.

Sabrosky, Laurel K., Help Local 4-H Leaders Do a Better Job, P.A. 359, U.S.D.A., Federal Extension Service, Washington, D.C.

Sabrosky, Laurel K. and Kelley, Fern S., Let's Strengthen Our Local 4-H Leader Training, P.A. 395, U.S.D.A., Federal Extension Service, Washington, D.C., 1959.

APPENDIX A

QUESTIONNAIRE

4-H ELECTRIC PROGRAM INFORMATION

To get acquainted, we need to know a little about your 4-H club leadership experience.

1. Our 4-H club is organized in
4 _____ county.

2. This questionnaire is being filled out by a
6 _____ 1. Man
_____ 2. Woman

3. Number of years of 4-H club leadership experience, counting this year:
7 _____ Years of 4-H electric leadership only
8 _____ Total years of 4-H leadership

4. Number of leader training meetings attended since September 1, 1958:
9 _____ Meetings primarily for electric program
10 _____ Meetings for 4-H club work in general

5. Did you receive an Electric Leader's Manual or Leader Idea Book this year?
11 _____ 1. Yes
_____ 2. No

Regardless of your answer to the above question, please complete the questionnaire.

6. If so, which one?
12 _____ 1. 4-H Electric Program Leader's Idea Book (black & green cover)
_____ 2. 4-H Electric Project Leader's Manual (green & white cover)
_____ 3. Neither

7. How did you receive your leader's manual?
13 _____ 1. At a meeting
_____ 2. By mail
_____ 3. From another leader
_____ 4. During a personal visit with the County Extension Agent
_____ 5. Did not receive a leader's manual

8. How many members were enrolled in your electric project club?
14 _____ Total boys
16 _____ Total girls

9. How many of these members completed their project or are still active in the club?
18 _____ Total boys
20 _____ Total girls

Some 4-H leaders have used leader manuals or guides; others have not used them. Your answers to the following questions will help in planning future publications for 4-H leaders.

1. How was the use of the Leader's Manual or Leader's Idea Book explained to you?

22 _____ 1. No explanation
_____ 2. Some explanation
_____ 3. Moderate explanation
_____ 4. Complete explanation

2. How well was this explanation given?

23 _____ 1. Poor
_____ 2. Fair
_____ 3. Good
_____ 4. Excellent

3. How useful was your Electric Leader's Manual or Idea Book in helping you with the following points? Please indicate the degree of use of each section to you by circling the appropriate rating between 1 and 8 for each item. (See the first line for an example) 1 = Very useful 8 = Of no use

	Very Useful							Of no use	
Example	1	2	3	4	5	6	(7)	8	Handling "problem" members
24	1	2	3	4	5	6	7	8	Meeting outlines
25	1	2	3	4	5	6	7	8	How to organize a club
26	1	2	3	4	5	6	7	8	Recreation ideas
27	1	2	3	4	5	6	7	8	Club activities
28	1	2	3	4	5	6	7	8	Project requirements
29	1	2	3	4	5	6	7	8	Ideas for things to make or to do
30	1	2	3	4	5	6	7	8	Getting parent co-operation
31	1	2	3	4	5	6	7	8	Movies, guest speakers, etc.
32	1	2	3	4	5	6	7	8	Electrical information
33	1	2	3	4	5	6	7	8	Demonstrations
34	1	2	3	4	5	6	7	8	Planning the club program

Several sources of information and help are available to 4-H electric leaders. Some are people, others are publications.

1. Did the following people help you this past year?

35 Junior Leaders
_____ 1. Yes
_____ 2. No

36 County Extension Agent
_____ 1. Yes
_____ 2. No

37 Other leaders
_____ 1. Yes
_____ 2. No

38 County Project Chairman
_____ 1. Yes
_____ 2. No

39 Power company representative
_____ 1. Yes
_____ 2. No

2. How useful were these sources of information and help to you in conducting your club program? (circle one number per line)

	Very useful							Of no use	
40	1	2	3	4	5	6	7	8	Member's Project Manual
41	1	2	3	4	5	6	7	8	Leader Manual or Idea Book
42	1	2	3	4	5	6	7	8	Electrical magazines
43	1	2	3	4	5	6	7	8	Michigan 4-H Leader's Guide
44	1	2	3	4	5	6	7	8	"Wiring Simplified"
45	1	2	3	4	5	6	7	8	"Electrical Demonstration You Can Perform"
46	1	2	3	4	5	6	7	8	"Electrical Equipment You Can Build"
									Others (Please list)
47	1	2	3	4	5	6	7	8	_____
48	1	2	3	4	5	6	7	8	_____

You are the only person who can truly tell about your club. Your ratings and your opinions will help us to provide materials of greater value to you.

1. How would you rate your club this year on these points? (Circle only one for each item)

	Very High							Very Low	
49	1	2	3	4	5	6	7	8	Member co-operation with leader
50	1	2	3	4	5	6	7	8	Parent co-operation with leader
51	1	2	3	4	5	6	7	8	Member interest in the electric project

2. What rating would you give your club in the following?

	Very High							Very Low	
53	1	2	3	4	5	6	7	8	Use of demonstrations
54	1	2	3	4	5	6	7	8	Recreation included at meetings
55	1	2	3	4	5	6	7	8	Electrical safety knowledge
56	1	2	3	4	5	6	7	8	Conduct of business meetings
57	1	2	3	4	5	6	7	8	Club publicity
58	1	2	3	4	5	6	7	8	Responsibilities assumed by members
59	1	2	3	4	5	6	7	8	Knowledge of electricity
60	1	2	3	4	5	6	7	8	Variety of club program
61	1	2	3	4	5	6	7	8	Proper care of electrical equipment
62	1	2	3	4	5	6	7	8	Member satisfaction with electric project
63	1	2	3	4	5	6	7	8	Member satisfaction with other club activities and experiences
64	1	2	3	4	5	6	7	8	Extent to which parents assisted with the club program

Your answers to these questions will help to give a picture of the club.

1. How many business meetings did the club officers conduct this year?

65 _____ Number of meetings

2. How many "work" meetings did the club have?

67 _____ Number of "work" meetings

3. How many members know the 4-H Club pledge?

69 _____ Number knowing pledge

4. How frequently were refreshments served at club meetings? (check one)

71 _____ 1. Always
_____ 2. Usually
_____ 3. Sometimes
_____ 4. Seldom
_____ 5. Never

5. About how many different games or recreation ideas were used as a part of club meetings during the year?
72 _____ Number

6. About how far ahead of time were the club meetings and program determined?
73 _____ 1. One day
_____ 2. One week
_____ 3. One month
_____ 4. Six months
_____ 5. One year

7. Did the club have a local Achievement program?
74 _____ 1. Yes
_____ 2. No

8. Likely you, as a leader, formed some ideas early in the year regarding what you hoped the club would accomplish. How well do you feel these objectives were accomplished by the club?
75 _____ 1. Very well
_____ 2. Moderately well
_____ 3. Some accomplishment
_____ 4. Little accomplishment

9. How many members will probably belong to this electric club next year?
76 _____ Number

10. Will you be willing to serve as an electric club leader next year?
78 _____ 1. Yes
_____ 2. No

11. What suggestions would you make as to what should be included in future leader manuals or guides?

79 _____

_____

_____

12.. What kinds of help are most needed by 4-H Electrical Club leaders?

80 _____

_____

_____

_____
Signed (if you wish)

APPENDIX B

TABLES

TABLE I

Assignment of Michigan Counties to Use the Leader's Manual or the Leader's Idea Book During 1959, According to Number of 4-H Club Agents, Electric Leaders,[a] and Electric Members in 1958

Counties assigned Leader's Manual				Counties assigned Leader's Idea Book			
County	4-H Agents	Electric Leaders	Electric Members	County	4-H Agents	Electric Leaders	Electric Members
Monroe	1	44	242	St. Clair	1	30	194
Washtenaw	1	10	38	Lenawee	2	12	59
Wayne	2	18	138	Oakland	2	21	84
Macomb	2	10	42	Lapeer	1	16	72
Huron	1	23	68	Tuscola	1	24	98
Livingston	1	9	75	Sanilac	1	12	59
Genesee	2	12	43	Ingham	2	5	45
Jackson	1	18	95	Calhoun	1	15	58
Hillsdale	0	2	3	Branch	1	5	17
Barry	1	8	40	Eaton	1	8	40
Kalamazoo	2	29	104	Kent	2	26	186
St. Joseph	1	12	34	Berrien	1	14	70
Allegan	1	17	68	Van Buren	1	16	68
Oceana	1	13	75	Ottawa	1	17	62
Muskegon	1	8	40	Newaygo	1	7	31
Montcalm	1	1	8	Mecosta	1	1	5
Ionia	1	6	30	Cass	1	6	30
Gratiot	1	9	40	Clinton	1	16	52
Shiawassee	1	8	40	Saginaw	1	10	50
Gd. Traverse	1	7	69	Isabella	1	12	73

[a]Number of electric leaders was estimated in proportion to enrollments in project.

Table I, Continued

Counties assigned Leader's Manual				Counties assigned Leader's Idea Book			
County	4-H Agents	Electric Leaders	Electric Members	County	4-H Agents	Electric Leaders	Electric Members
Bay	1	5	32	Midland	0	3	11
Mason	0	6	26	Manistee	1	1	37
Osceola	1	3	16	Clare	0	2	7
Arenac	0	8	38	Charlevoix	0	6	48
Iosco	0	1	2	Ogemaw	0	1	3
Alcona	0	2	4	Alpena	1	1	6
Presque Isle	1	3	17	Cheboygan	0	4	11
Otsego-Montmorency[b]	0	3	19	Kalkaska-Crawford[b]	0	1	5
Missaukee-Roscommon[b]	0	2	10	Wexford	0	2	6
				Leelanau	0	1	8
Antrim	1	1	7	Emmet	1	0	0
Benzie	0	0	0	Oscoda	0	0	0
Lake	0	0	0	Mackinaw	0	0	0
Gladwin	0	0	0	Luce	0	1	1
Chippewa	1	1	4	Delta	1	1	6
Marquette	0	3	10	Gogebic	0	4	5
Iron	1	2	14	Ontonogon	0	2	6
Baraga	0	1	6	Schoolcraft	0	1	7
Dickinson	0	0	0	Menominee	1	0	0
Houghton-Keweenaw[b]	1	0	0	Alger	0	0	0
Total Counties 42	30	307	1497	Total Counties 41	29	306	1520

[b]Combined because one Extension office serves both counties.

TABLE II

Number of 4-H Electric Members Enrolled and Completed According To the Publication Used by the Leaders During 1959

Member Enrollment and Completion	Publication Used by Leader							
	Leader's Manual				Leader's Idea Book			
	First Year Leaders N=47		Experienced Leaders N=74		First Year Leaders N=31		Experienced Leaders N=37	
	Number	Avg/club	Number	Avg/club	Number	Avg/club	Number	Avg/club
Members Enrolled, 1959	281	5.98	6-9	8.23	214	6.90	242	6.54
Members Completed, 1959	233	4.96	547	7.39	161	5.19	208	5.62
Percent Completed, 1959		83%		90%		75%		86%
Expected Member Enrollment, 1960[a]	244	6.59	519	7.98	147	6.68	251	7.61
Percent Increase in Enrollment (1960/1959) in Continuing Clubs		10%		-4%		-3%		16%

[a]Computed from leaders responding to question only, not total leaders in the category.

TABLE III

Kinds of People Who Helped 4-H Electric Leaders According To The Publication Used and Leadership Experience

	Publication Used by Leader							
	Leader's Manual				Leader's Idea Book			
	First Year Leaders		Experienced Leaders		First Year Leaders		Experienced Leaders	
People Who Helped Leaders	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Junior Leaders	25%	10	48%	29	36%	10	44%	29
County Extension Agents	61	28	73	52	68	21	66	24
Other Leaders	63	25	41	27	28	8	33	11
County Project Chairmen	30	11	20	11	21	6	21	7
Power Company Representatives	44	19	66	45	40	12	66	23

TABLE IV

Number of Games and Recreation Ideas Used in 4-H Electric Clubs According to Leader Publication Provided Michigan 4-H Electric Leaders in 1959

Number of Games or Recreation Ideas Used in the Club	Publication Used by Leader							
	Leader's Manual				Leader's Idea Book			
	First Year Leaders, N=47		Experienced Leaders, N=75		First Year Leaders, N=31		Experienced Leaders, N=37	
	Count	Total	Count	Total	Count	Total	Count	Total
0	26	0	31	0	17	0	10	0
1	1	1	3	3	1	1	0	0
2	4	8	4	8	2	4	2	4
3	3	9	7	21	3	9	4	12
4	3	12	9	36	2	8	4	16
5	1	5	4	20	4	20	4	20
6	1	6	3	18	0	0	3	18
7	1	7	0	0	0	0	0	0
8	1	8	0	0	0	0	0	0
9	0	0	1	9	0	0	0	0
10 or more	6	66	13	143	2	22	10	110
Total	47	122	75	258	31	64	37	180
Average Number of Ideas Per Club Including Recreation	5.81		5.86		4.57		6.67	

TABLE V

Frequency of Local 4-H Club Achievement Programs According to Leader Publication Used

Local Club Achievement Program Held	Publication Used by Leader			
	Leader's Manual		Leader's Idea Book	
	First Year Leaders	Experienced Leaders	First Year Leaders	Experienced Leaders
Yes	27	55	16	17
No	16	17	10	16
No Answer	4	3	5	4
Percent of Answers in the Affirmative	63%	76%	62%	52%

TABLE VI

Willingness of 4-H Electric Leaders to Lead a Club Next Year

Willing to lead a 4-H electric club next year	Publication Used by Leader			
	Leader's Manual		Leader's Idea Book	
	First Year Leaders	Experienced Leaders	First Year Leaders	Experienced Leaders
Yes	36	57	19	29
No	6	8	7	5
No Answer	5	10	5	3
Percent of Answers in the Affirmative	85.7	89.5	73.1	85.3

TABLE VII

Training Meetings Attendance by Michigan 4-H Electric Leaders in 1959[a]

Type of training meeting	Frequency of attendance	Meetings primarily for electric program: One or More	Meetings primarily for electric program: None	Totals
Meetings primarily for 4-H club work in general	One or more	Group I 62	Group III 40	102
	None	Group II 41	Group IV 70	111
	Totals	103	110	213

[a]x^2 = 11.7 with one degree of freedom.

TABLE VIII

Selected Factors of Satisfactions and Accomplishments of Michigan 4-H Electric Leaders as Related to Attendance at Training Meetings During 1959

Factors of Leader Satisfaction and Accomplishment	Group I Attended both electric and general 4-H meetings	Group II Attended electric but not general 4-H meetings	Group III Attended general 4-H but not electric meetings	Group IV Attended neither type of meeting
Average number of recreation ideas used	5.1	5.3	5.7	5.5
Percent of clubs having local Achievement program	66%	62%	62%	67%
Satisfactory accomplishment of club objectives	85%	81%	71%	79%
Willing to serve as club leader next year	84%	68%	65%	67%
High rating on usefulness of Idea Book or Manual	71%	65%	70%	83%

TABLE IX

Usefulness of the Leader Publication for Selected Topics as Stated by Michigan 4-H Electric Leaders in 1959

1 = Very Useful 8 = Of no Use

	Publication Used			
	Leader's Idea Book		Leader's Manual	
Subject Rated	First Year Leaders (N=21)	Experienced Leaders (N=38)	First Year Leaders (N=47)	Experienced Leaders (N=75)
Meeting Outlines	3.4	3.3	3.1	3.8
How to Organize a Club	3.5	3.4	2.6	4.2
Recreation Ideas	4.8	4.6	4.1	4.7
Club Activities	3.9	3.8	3.2	4.5
Project Requirements	2.4	3.2	2.2	2.5
Ideas for Things to Make or Do	2.7	3.3	2.5	4.2
Getting Parent Cooperation	5.5	5.6	5.0	5.9
Movies, Guest Speakers, etc.	6.1	6.2	5.6	5.9
Electrical Information	2.6	3.1	3.3	3.5
Demonstrations	3.0	2.4	3.1	3.4
Planning the Club Program	3.0	3.1	3.1	4.1
Group Mean Score	3.72	3.82	3.44	4.25
Percent - Very Useful[a]	53%		60%	
Usefulness of the Publication	2.5	2.8	2.2	2.8

[a] $\underline{t}$ = .609, $\underline{t}$ = 2.00 for significance at 95% level.

TABLE X

Michigan 4-H Electric Club Leader Ratings of Their Club Performance on Selected Indicators of Leader Satisfaction (1959)

1 = Very High, 8 = Very Low

Indicators of Leader Satisfaction	Leader's Idea Book		Leader's Manual	
	First Year Leaders (31)	Experienced Leaders (38)	First Year Leaders (47)	Experienced Leaders (75)
Member cooperation with leader	2.7	2.4	2.3	2.6
Parent cooperation with leader	4.1	3.9	3.6	3.4
Member interest in the electric proj.	2.6	2.4	2.6	2.5
Quality of work done by members	3.0	2.4	2.4	2.3
Use of demonstrations	4.3	3.7	5.2	4.5
Recreation included at meetings	5.3	3.3	4.3	5.0
Electrical safety knowledge	3.3	3.2	3.4	3.3
Conduct of business meetings	3.4	2.5	3.3	3.3
Club publicity	5.2	4.1	4.4	5.0
Responsibilities assumed by members	4.1	3.7	3.0	3.6
Knowledge of electricity	4.4	3.7	4.1	3.5
Variety of club program	4.6	3.7	4.1	4.3

Table X, Continued

Indicators of Leader Satisfaction	Leader's Idea Book		Leader's Manual	
	First Year Leaders (31)	Experienced Leaders (38)	First Year Leaders (47)	Experienced Leaders (75)
Proper care of electrical equipment	3.7	3.0	3.5	3.3
Member satisfaction with electric project	2.9	2.1	2.4	2.5
Member satisfaction with other club activities and experiences	3.1	2.1	2.6	3.0
Extent to which parents assisted with the club program	5.0	5.0	4.7	4.7
Unweighted mean score on club rating	3.86	3.20	3.49	3.55
Weighted mean scores on club rating	3.79	---	3.38	---
Total number of responses Items 1-16	439		668	

TABLE XI

Scores on Selected 4-H Club Evaluation Categories by Michigan 4-H Electric Leaders During 1959

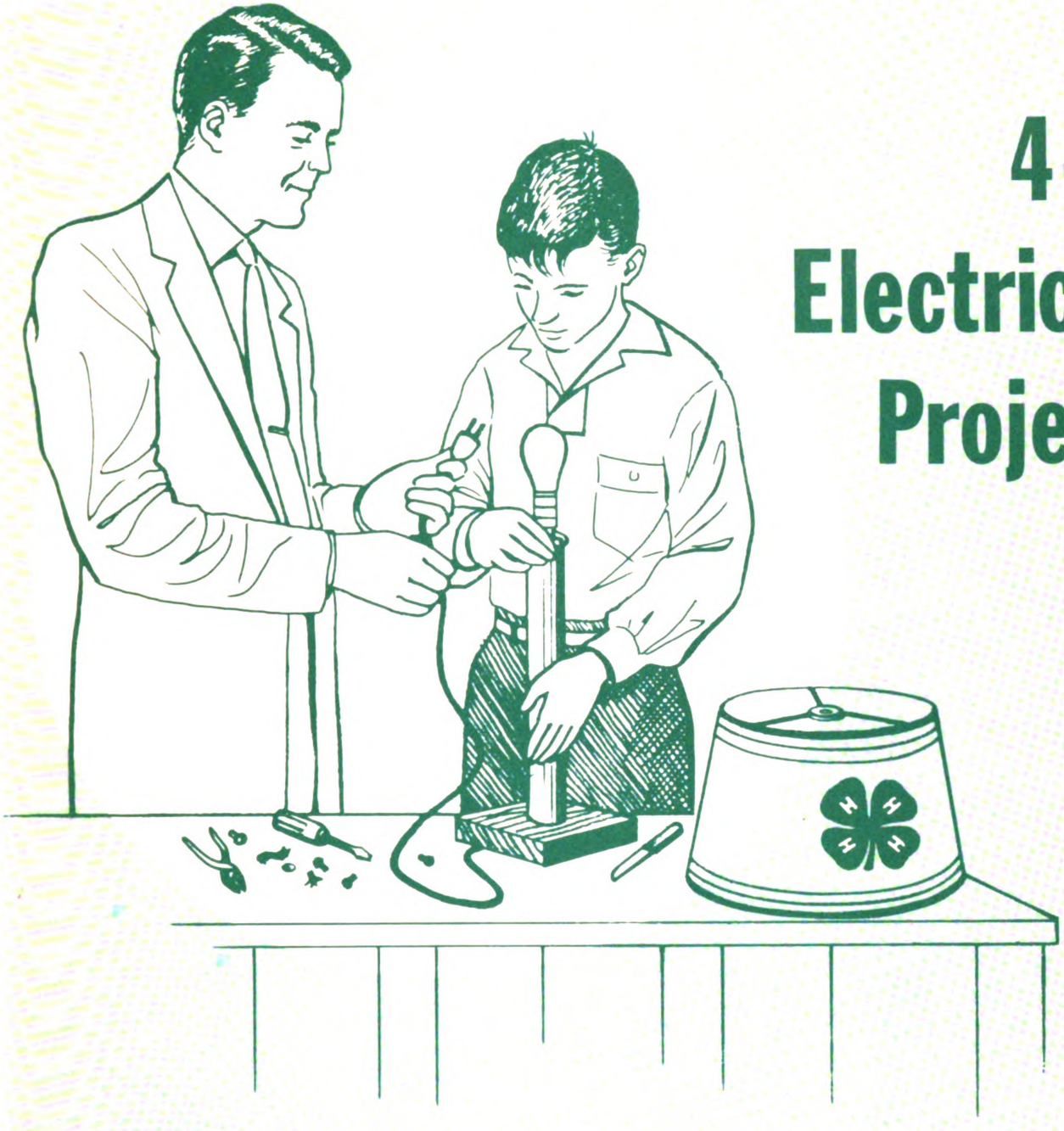
Evaluation Category	Leader's Idea Book		Leader's Manual	
	First Year Leaders	Experienced Leaders	First Year Leaders	Experienced Leaders
Helpfulness of Manual or Idea Book	2.5	2.8	2.2	2.8
Percent of members completing	75%	86%	83%	94%
Recreation ideas used	4.6	6.7	5.8	5.8
Member enrollment expected next year	6.69	7.61	6.59	7.98
Willing to lead a club next year	73%	85%	85%	90%

APPENDIX C

LEADER PUBLICATIONS

4-H Club Bulletin 348

LEADER'S MANUAL



4-H Electrical Project

MICHIGAN STATE UNIVERSITY
Cooperative Extension Service 4-H Club Program
East Lansing

INDEX

Acknowledgment

The following people assisted in the preparation of this leader's outline:

Joe Waterson, Monroe County 4-H Club Agent
James Halm, Saginaw County 4-H Club Agent
Arden Porter, Consumers Power Company
Erwin Raven, Don Cook, and Kay Sizer, Detroit Edison Company
Amalie Vasold, Assistant State 4-H Club Leader
June Wilkinson, Assistant State 4-H Club Leader
Robert Maddex, Department of Agricultural Engineering
Richard Pfister, Department of Agricultural Engineering
John T. Stone, Staff Training Officer
Einer G. Olstrom, District Extension Supervisor, 4-H Club Program

PROCEDURE FOR LOCAL LEADERS

1

You have decided to be a 4-H leader in your community. This is an important step.

2

From the County Extension Office, 4-H leaders, 4-H bulletins and literature, find out about 4-H Club work.

3

Talk with your neighbors and their children about organizing a 4-H Club. If there is interest, go on to the next step.

4

Arrange for a meeting with members and their parents.

INFORMATION FOR LOCAL LEADERS

(County provides this information)

1. Extension Agents:	**Name**	**Phone**
Agriculture		
Home Economics		
4-H Club		

2. Experienced Local Leaders:		
Project Leader		
County Policy and Events Leader		
Recreation Leader		

3. Commercial Representatives cooperating in this project:		
Title or position		

4. Important County Dates:	**Place**	**Date**
Leader Training Meeting		
Leader Training Meeting		
Achievement Days		
Camp		

5. Important Reference Material:

FIRST MEETING WITH PARENTS AND MEMBERS

Let's start

1. Introductions

A parent can introduce members of his family

2. Purpose of meeting

To organize (or reorganize) a local 4-H Club

3. 4-H Club requirements

A Club should have:

- Five or more members
- One or more adult leaders
- Organization with officers
- Six or more meetings
- A planned program
- Complete project, report, and exhibit at Achievement Day
- Participation in other 4-H Events

4. Opportunities for 4-H Club members

To learn useful skills, develop social confidence, learn good work habits, and provide opportunity for personal achievement

Extension Agent can help explain these and other opportunities available to the 4-H Club members

5. Time and cost involved

Leader, parents, and members should talk over the cost of supplies and materials and time needed to do a good job

6. Our responsibilities:

Leader should——

— Find the time, energy, and thought needed to provide a healthy learning experience for a group of boys and girls in this community

Parents should——

— Provide a favorable attitude and interest

— Provide active cooperation

— Give encouragement and guidance

— Provide opportunity for member to attend meetings and other 4-H events

— Provide their share of materials, transportation, etc.

Member should——

— Attend regularly

— Follow instructions

— Strive to do his best

— Learn to take part in the group

— Complete what he starts

— Do his share willingly

MANAGEMENT OF OUR CLUB

7. Club activities

A. Frequency of meetings ..... Once a week _____ Every two weeks _____

Day of week ..... Mon.___ Tues.___ Wed.___ Thurs.___ Fri.___ Sat.___

Hours ..... Morning: _____ to _____

Afternoon: _____ to _____

Evening: _____ to _____

B. Refreshments (kinds and how much) ..... Every meeting _____

Every other meeting _____

Once a month _____

Who provides ..... Date_____ Name_____

Date _____

C. Dues (depends on club plans) ..... None _____ Per week_____ Per year_____

D. Transportation (if cars are necessary)

1st meeting _____ 3rd meeting _____

2nd meeting _____ 4th meeting _____

E. Business meetings (how often) ..... Every time_____ Once a month_____ Other_____

F. Demonstrations (members) ..... Every time_____ Every other time_____ 1 yr._____

G. Tour (leader, members, some parents)

Where ..... One _____ Two _____ Three _____

Plan ..... _____

Who can help ..... _____

H. Achievement Day ..... Date _____

Who can help ..... _____ _____ _____

_____ _____ _____

I. Other 4-H events (list) ..... _____ _____ _____

Who can help ..... _____ _____ _____

8. Project requirements and exhibits . .

Refer to the **Project Requirements Bulletin** and project list in this outline.

9. Plan the organization meeting:

Date_____ Time_____

Place _____

10. Serve refreshments

Project List

Project work may be other than suggested here if it has the Extension Agent's or local leader's approval. Other work selected should require equal skill.

First Year Article List

Cord board (required)
Extension cord (heavy or light duty)
Trouble lamp
Toy electric motor
Electric cord reel
Repair appliance (replace with new plug or new cord if required)
Swing arm lamp
Make or assemble lamp
Rewire lamp
Make lamp shade
Movable spot or flood light
Electrical demonstration (1 to 3 minutes)

Second Year Article List

Wire board or care of small appliances (required)
Poultry water warmer
Movable workbench light
  Approved lamp
  Approved shade
Compute cost of electricity for operating certain equipment
Ice cream freezer power unit
Trouble lamp
Toy motor
Swing arm lamp
Electrical demonstration (1 to 3 minutes)
Ventilating fan

Third Year Article List

Lighting Survey (required)
Install door bell or chimes
Install inter-communication system
Belt sander
Install yardlight
Pig brooder
Electric chick brooder
Infra-red chick brooder
Infra-red heater
Infra-red milk-house heater
Drill pres
Install electric fence unit
Motor-driven grinder
Installation of permanent motor
Ice cream freezer power unit
Compute cost of operating certain electrical equipment
Movable workbench light
Lighten house numbers
Electrical demonstration (10 to 15 minutes)

Advanced Article List

Wiring panel
Install poultry house light dimmer
Wire small building
Electric lawn mower
Circular saw
Install convenience outlet
Drill press
Motor-driven grinder
Elevator
Installation of permanent motor
Install yard light and or switch
Electrical demonstration (10 to 15 min.)

References

Electrical Projects for 4-H Clubs, Bulletin No. 148, Michigan State University, (available at County Extension Office).

Electrical Equipment You Can Build, Farm Youth Activities, Power Use Department, Westinghouse Electric Corp., 401 Liberty Avenue, P.O. Box 2278, Pittsburgh 30, Pennsylvania.

See Your Home in a New Light, General Electric Company Large Lamp Division, Nela Park, Cleveland, Ohio.

Electric Light for the Farmstead, U. S. Department of Agriculture, Bulletin No. F1838, Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

NOTES

REQUIRED ARTICLES

This page indicates the choice of required exercises and suggestions for doing them.

FIRST YEAR REQUIRED PROJECT

Cord Board

1. Use 12 x 12 x ¼ inch plywood board.
2. Use four different types of cord, 8 inches long, such as:
   - Rubber lamp cord (rip cord), 2 wire, 18 gauge.
   - Plastic lamp cord (rip cord), 2 wire, 18 gauge.
   - Rayon covered lamp cord, 2 wire, 18 gauge.
   - Cotton cover braided, 2 wire, 18 gauge.
   - Asbestos appliance cord.
   - Flat rubber-covered (similar to rip cord), 2 wire, 16 gauge.
   - Round rubber cord (light duty, type 5V), 2 wire, 18 gauge.
   - Round rubber cord (medium duty, type SJ), 2 wire, 16 gauge.
   - Round rubber cord (heavy duty, type S), 2 wire, 18 gauge.
   - Round rubber cord (heavy duty, type S), 2 wire, 16 gauge.
3. Cut cord cover back 1½ inch.
4. Clean insulation back ¾ inch and solder ends.
5. Attach wires to plywood board (suggestion: Drill holes in board and use fine wire to fasten wire samples to board.)
6. Label the cords, indicating what each can be used for.

SECOND YEAR REQUIRED PROJECT

Make a wire board **or** a scrapbook on care of small appliances.

Wire Board

1. Use 12 x 12 x ¼ inch plywood board.
2. Use four different types of wire, 8 inches long, such as:
   - Service cables.
   - Non-metallic sheathed cables.
   - Non-metallic sheathed cable with plastic covering.
   - Outdoor single conductor wire, copper or aluminum.
   - Bare ground wire.
   - Inside single conductor wire (such as used in conduit).
3. Cut cable sheath back 4 inches.
4. Clean insulation back ¾ inch.
5. Attach wires to plywood board.
6. Label the wires, indicating where they should be used.

Care of Small Appliances

1. Care for two small appliances.
2. Make a scrapbook on the care of these appliances, giving all steps.
3. Have local leader check and sign scrapbook. (Reference—Care of Small Appliances)

THIRD YEAR REQUIRED PROJECT

Make a lighting survey and scrapbook report **or** a scrapbook on the care of a major appliance.

Lighting

1. Prepare scrapbook.
   a. Show existing lighting in two work areas by photo or simple sketch.
   b. Show how it can be changed to improve the lighting whenever possible.
   c. Use "before" and "after" photographs whenever possible.
   d. Outline other lighting activities.
2. Actually change lighting in one work area as reported.
3. Have local leader check and sign report. (Reference—Lighting Activities Suggestions).

Major Appliance Care

1. Care for one large appliance.
2. Make a scrapbook, giving all steps taken.
3. Have local leader check and sign scrapbook.

ADVANCED REQUIRED PROJECT

Demonstrations

All members in advanced work are to give a 10- to 15-minute demonstration on any appropriate subject, such as articles, modern appliances, safety, lighting fuses, etc.

(References — Suggested Demonstrations, **Electrical Demonstrations You Can Perform,** Westinghouse publication. 4-H Demonstration Story Bulletin No. 111A, Michigan State University.)

ORGANIZATION MEETING

DATE _____

ORGANIZING THE CLUB

Preparation

1. Notify interested members well in advance of this meeting.
2. Get project supplies available from the County Extension Office.
3. Brief your family on plans for the meeting—— when you will meet, how long, expected behavior, etc.
4. Have house in order with extra seating space, etc.
5. Have something for first comers to do, such as look over electrical bulletins or magazines with electrical projects.
6. Start the meeting with the 4-H Club Pledge:

I pledge
My Head to clearer thinking,
My Heart to greater loyalty,
My Hands to larger service,
My Health to better living, for my club, my community, and my country.

Procedure

1. Start the meeting on time. This indicates that all meetings will start on time.
2. Open the meeting with the 4-H Club Pledge. Assign a club member to lead the pledge at the next meeting.
3. Discuss the expected conduct during meeting. Set "off limit" areas if necessary.
4. Elect officers; leader is chairman until a president is elected. Suggested business for organized club: roll call topic, recreation committee, demonstrations, final agreement on club management as talked over with parents.
5. Enroll members, one member on each enrollment card; send to County Extension Agent.
6. Hand out bulletin supplies.
7. Make meeting and work plans for next meeting.
8. Close meeting on time and help members make a list of the supplies each needs to bring for the first work meeting.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstrations _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

Play

Recreation Committee provides two active games.

Twenty Questions (Masterminding).——One player thinks of some specific object anywhere in the world and indicates whether it is animal, vegetable, or mineral. The other players try to learn what the object is. They may ask up to 20 questions. The questions must all be answered "Yes", "No" or "I don't know". Direct questions such as "Is it that door?" should be avoided until the group, by the process of elimination with general questions, feels pretty sure of the object. The player asking the final question is "It" for the next round.

Work Meeting Plans

The following lesson plans are *suggested* activities for each meeting. Each leader will want to make some changes to best fit the needs of the club members of their club.

FIRST WORK MEETING _____

DATE _____

Preparation

1. Have work space in order.
2. Need 1-foot cord for each member. Also, jacknife and screwdriver.
3. When the first member arrives, your leadership influence begins.
4. **Go direct to meeting area and have something for first comers to do such as looking over electrical articles, lamps, meters, switches, etc.**
5. Start meeting at pre-arranged time.
6. Take time to make necessary plans for the next meeting. Assign two members as recreation committee.

Procedure

1. President starts meeting with 4-H Club Pledge.
2. Secretary takes roll. Either go on to business meeting or group work.
3. Point out uses of "plugs" in electrical equipment.
4. Demonstrate how to wire a plug.
5. Cut 1-foot lengths of 16-2 cord for each member.
6. Emphasize the importance of doing this job well.
7. Compliment their efforts and progress—help each as necessary.
8. Demand the best work that each individual can do.

Close the Meeting on Time — Remind Them —

1. All learn the 4-H Club Pledge by next meeting.
2. Time and place of next meeting.
3. Bring back choice of articles to make.
4. Bring cord and supplies for required articles.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstrations _____

Roll Call —

When secretary calls the roll, members may answer to their names by a pre-arranged topic such as **Electrical Articles.** Some might be: light bulb, radio, refrigerator, washer, dryer, electric fan, lamp, TV, etc.

Recreation Committee _____

_____

Other Committees _____

_____

_____

Play

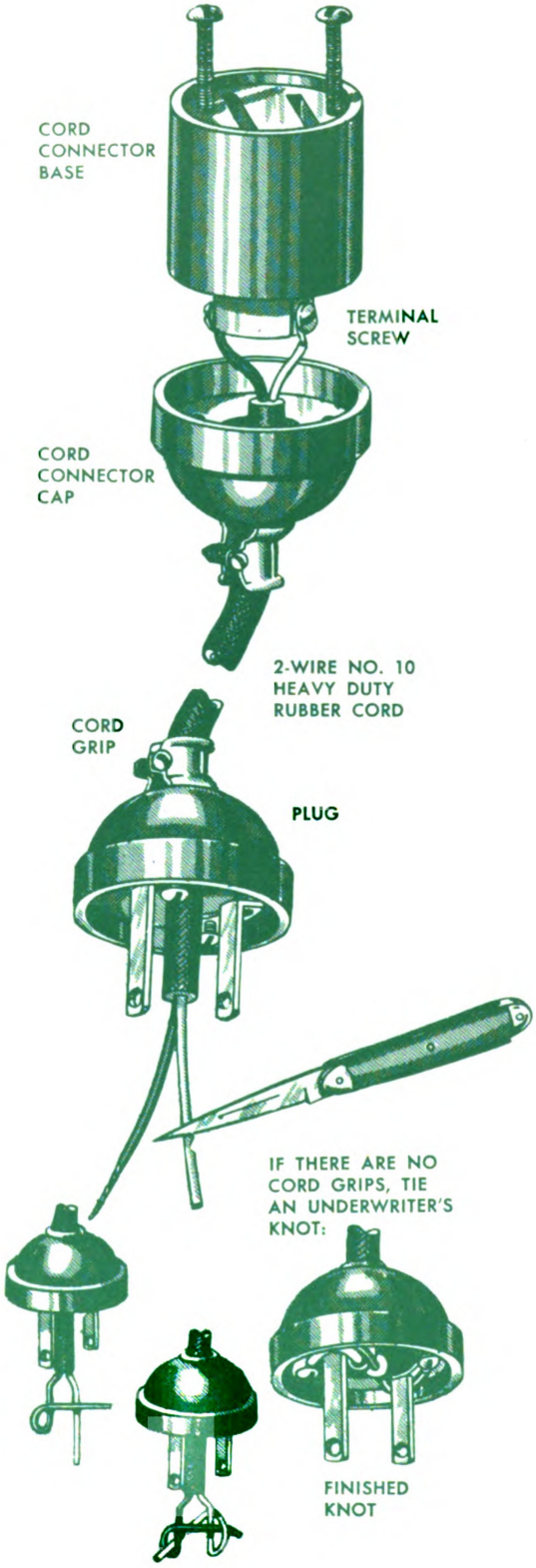
Recreation Committee provides two active games.

Jerusalem and Jericho.—All players stand in front of their chairs, in a line or circle. The leader stands before the group and says "Jericho" or "Jerusalem" as he wishes. Everyone stoops on "Jerusalem" and stands still on "Jericho". In the meantime, the leader may do what he wishes, preferably the wrong thing at the wrong time. Anyone caught making a mistake sits down immediately. Play until a majority are seated.

TEACH and DEMONSTRATE: Extension Cords

Several 110-volt extension cords are handy things to have about the house and farmstead. They can provide light or electric power in out-of-the-way places, in case of emergency or on special jobs. Never use them in place of permanent wiring.

If you use No. 16 wire for an extension cord it will be adequate to serve many pieces of electrical equipment, including a 1/3 horsepower motor. Keep your extension cord out of water and wipe off any oil, grease, or dirt that may get on the cord when you are using it.



Materials Needed

1. Heavy-duty cord, grip-type plug with clamp.
2. 30 feet of 2-wire No. 16 heavy-duty, rubber-covered cord.
3. Cord connector body.
4. Jacknife.
5. Screw driver.

Procedure

1. Pull wire through plug, remove rubber covering, and separate wires about two inches.
2. Prepare the wire by removing ¾ inch of the rubber insulation and then scraping the wires clean. Twist the strands of fine wire together. Prepare the other wire in the same manner.
3. Tie the underwriter's knot.
4. Attach the wire to the plug. Loop each wire clockwise around one plug prong and clockwise around the connector screw. Tighten the screws securely.
5. Disassemble the cord connector body. Prepare the wire as you did in Step 2. Wire connector and reassemble.

SECOND WORK MEETING _____

DATE _____

Preparation

1. To help promote organization and cooperation, provide shelves for members' material and projects.
2. Provide each member with paper and string to make six (6) tags each. Tag each project or article.
3. Provide broom, dust pan, etc. so each member can help clean up after working time is up.
4. Have supply of ¼-inch plywood for cord or wire boards (each member needs piece 12 x 12 inches)
5. 4 Cords – 8 inches
   4 Wires – 8 inches
6. Take time to make plans and assignments for the next meeting.

Procedure

1. President starts meeting with the 4-H Club pledge.
2. Secretary takes roll. Either go on to business meeting or group work.
3. Work on required articles

First year: – Cord board

1. Use 12 x 12 x ¼ inch plywood board.
2. Use 4 different types of cord, 8 inches long.
3. Clean insulation back 1½" and solder ends.
4. Name the cords and what they can be used for.

Second year: – Wire board

1. Use 12 x 12 x ¼ inch plywood board.
2. Use 4 different types of wire, 8 inches long.
3. Clean insulation back 1½".
4. Name the wires and where they should be used.

OR

Care of Small Appliances

Make a scrap book on the care of the appliances you checked (give all steps taken)

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstrations _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

Play

Recreation Committee provides two active games.

Crazy Cane. – Provide a cane, wand or broomstick. Each player in turn places one end of the cane on the floor, with both hands over the upper end. The forehead is brought to rest on the back of the hands. With eyes closed, walk around the cane in this position twice, then stand up, count to five, and walk a straight line across the room. Anyone failing to walk a straight line is eliminated. This may be used as a relay.

TEACH and DEMONSTRATE: Principles of Electricity

What To Do

Compare electrical system to water system or compressed air system.

Show electrical distribution system for farm or home.

Demonstrate circuit by joining hands.

Have power supplier representative or electrician explain electrical system using meters if available.

Materials Needed

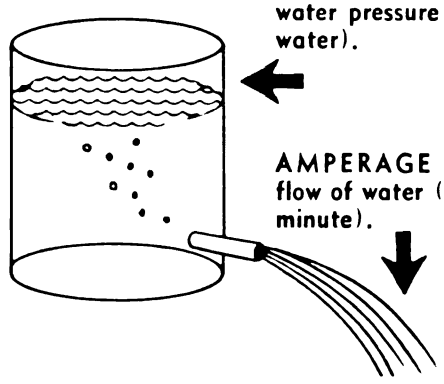
1. Different size pieces of pipe (diameter) or hose, wire.
2. Water container — 1 gallon or larger — watch.
3. Pictures of an electrical switch, an outlet, a light and one or two portable appliances.

Procedure

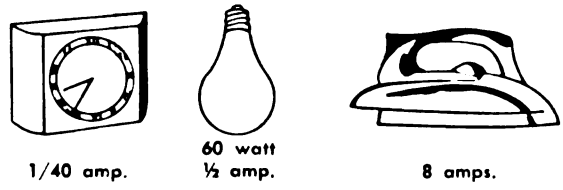
1. Show water system, explain that water pressure acts the same as electrical pressure which we call voltage, point out pressure gauge on water system or air compressure.
2. Open a faucet, a little bit, half-way, all the way. Compare time it takes to fill a container; relate this to current; gallons per minute is a measure of the amount of water and amperes is the measure of the amount of electricity flowing through a circuit.
3. Follow the electrical distribution system starting at pole transformer.
4. Form a circle — show how devices such as switches and outlets make it convenient to connect appliances or control flow of electricity.

REFERENCE:
Wiring Simplified

- An electric current in a wire is something like water flowing through a pipe . . .



- Voltage (volts) is the pressure that forces an electric current through a wire. The rate of flow of the electricity is measured in Amperes. These appliances use about



- A Watt is a measure of electric Power. It is the Rate at which electricity is used. A man can work at a rate of about 75 watts for a short time . . . for long periods at about half this rate.

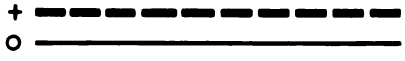
- You buy Electrical Energy by the Kilowatt-Hour. It tells how much work electricity does. A 100-watt electric lamp used for 10 hours consumes 1 kilowatt-hour of electricity.

- A. C. means Alternating Current. A. C. surges back and forth in the wires which carry it. Usually it does this 60 times a second and is called 60-cycle current.

  This is how A. C. is pictured.

- D. C. means Direct Current. It always flows in the same direction. D. C. is used to run many kinds of motors. It is also used in plating metals and making aluminum and other metals.

  This is how D. C. is pictured.



THIRD WORK MEETING _____

DATE _____

Preparation

1. Consider the demonstration method as a good way to teach steps in project work.
2. Time for a business meeting
   Reference:
   4-H Club Leaders Guide, No. 314A
   4-H Secretary's Book
   A. Start on time
   B. Use correct and dignified procedure
   C. Make the business meeting a training session
      (1) Chairing a meeting
      (2) Importance of organized procedure
      (3) Serving on committees
      (4) Individual responsibility
   D. Under new business — plan next meeting.
3. Assign Demonstrations for members to prepare for next meeting.
   A. Replace a plug in a good lamp
   B. How to solder
   C. Care of tools
   D. How toy motor works
   E. How to tie electrician's knot
   F. Size of wire to use
   G. There are many, many other possibilities

Procedure

1. President starts meeting with the 4-H Club Pledge.
2. Secretary takes roll. Either go on to business meeting or group work.
3. Discuss demonstrations.
4. Pair up members and have them practice the demonstration procedure.
5. Suggest members choose topic for demonstrations from your suggestions and present at next meeting.
6. Work on projects.
7. Remind members to bring plans and materials for next project.

REFERENCE:

4-H Demonstration Story, Bulletin No. 111A, Michigan State University

Electrical Demonstrations You Can Perform, Farm Youth Activities, Power Use Dept., Westinghouse Electric Corp., 401 Liberty Avenue, P.O. Box 2278, Pittsburgh 30, Pennsylvania.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstrations _____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

NOTES

Play

Recreation Committee provides two active games.

Hot Potato.—Players sit or stand in a circle with an "It" in the center. They throw a knotted towel across from one to another, trying to prevent the center player from touching it. He tries to touch it at any time, even when it is in the hands of a player or when it lands outside of the circle. The one who is at fault in letting him touch it becomes "It" and changes places with him.

TEACH and DEMONSTRATE: Giving Demonstrations

What To Do

1. Explain to members that demonstrating is **showing how.**
2. The following points contribute to effective demonstrations.

   a. Careful planning contributes to the success of a demonstration ––

      (1) It saves time.
      (2) It contributes to your self confidence.

   b. Here are the steps for organizing your demonstration:

      (1) Visualize the audience.
      (2) Decide on purpose.
      (3) Decide on length of time it will take.
      (4) Decide what to do.
      (5) Gather background information.
      (6) Organize subject matter – dovetail what you say and do.
      (7) Plan visual aids
      (8) Plan staging } Dramatize.
      (9) Plan display
      (10) PRACTICE – very important.
      (11) Make necessary adjustments.
      (12) Present as planned.

Procedure

Have members demonstrate. They will have a very good demonstration if they can answer "YES" to the questions in the next column.

"Here! Let me show you."

1. THE INTRODUCTION

A. Is it interesting and brief?

B. Do you tell how and why you have used the practice you are demonstrating?

2. BODY

A. For each step do you make clear —

WHAT is being done?

HOW it is being done?

WHY it is being done?

B. Is your demonstration interesting? Will the audience want to do what you are demonstrating?

C. Is your demonstration clear? Can the audience repeat what you are demonstrating?

D. Is your demonstration worthwhile? Do you show good results?

E. Is your demonstration conclusive? Do you prove the value of the idea demonstrated?

F. Can the audience follow your demonstration? Is it too fast? Is it too slow?

G. Are your charts and posters large enough to be seen and read easily?

3. CONCLUSION

A. Do you review the main points of your demonstration?

B. Are you prepared to answer questions?

FOURTH WORK MEETING _____

DATE _____

Preparation

1. Consider a parents' night or tour for your club members.
2. Invite parents to assist with the demonstration program.
3. Provide table and chart stand for demonstrators, seating arrangement for others.
4. Check progress
   (a) Project work done to date
   (b) Next projects
   (c) Material needed
   (d) Special problems
5. Complete plans for next meeting.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstrations _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

_____

Procedure

1. President chooses a member to lead the group in 4-H Club Pledge.
2. Secretary takes roll. Either go on to business meeting or demonstrations and project work.
3. Have members give their demonstrations.
4. Compliment every effort, especially members that need encouragement.
5. Suggest members choose another topic to demonstrate at some future meeting.
6. Work on projects.

Play

Recreation Committee provides two active games.

Ghost.—Players to sit around in a circle. The first player says a letter of the alphabet and the players follow suit – trying to make a word. A player who cannot add a letter is given the letter "G" from ghost, then the "H" and so on down. The first player who is given all the letters from the word "Ghost" drops out. Each player is given a time limit of three minutes in order to say his or her letter.

NOTES

TEACH and DEMONSTRATE: The Importance of Safety

What To Do

1. Present discussion, inspection, and work examples of proper fusing, wire insulation, and 110 volt-3-wire outlets.
2. Conduct an electrical safety inspection at the meeting place and surrounding buildings.
3. Follow-up with members making a similar inspection of their home buildings.

Materials Needed

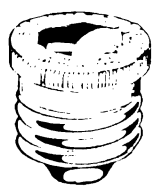
1. Assorted fuses and fusestats.
2. Two-wire outlet with ground cable—#12, 3 feet.
3. Three-wire 110 volt duplex outlet, outlet box, and plug.
4. Assortment of various wires using different insulation.

Procedure

1. Discuss proper fusing and size of wire, have members break open fuses and fusestats to inspect.
2. Discuss insulation, have members open assorted types of wires to check insulation features.
3. Discuss applications of two-wire outlets with ground cable — have members properly connect such a cable to 110 volt outlet.
4. Leader lists common unsafe practices — members respond with safe practices to replace unsafe.
5. Take members on an inspection tour around your home and buildings — noting safe conditions and those needing improvement.
6. Each member follows up meeting by making an electrical inspection around his home buildings, listing safe conditions and conditions needing improvement.

When You Change Fuse

The fuse and the circuit breaker are safety valves to protect your electric circuits. When a fuse "blows" or a circuit breaker opens a circuit it means you have too many pieces of electrical equipment on one circuit or you have trouble on a piece of equipment.



FIRST

Locate and disconnect lamp or appliance responsible for blowing the fuse.

SECOND

Locate blown fuse while standing on dry board.

THIRD

Unscrew, being careful not to touch anything but fuse rim. Replace with new fuse of correct ampere rating.

NOTE:

Use 15 ampere fuse for ordinary household or lighting circuits. (No. 14 wire). A 20 ampere fuse can be used with No. 12 wire.

To Reset The Automatic Circuit Breaker

1. **Remove source of trouble as outlined when replacing a fuse.**
2. **Restore service by resetting automatic switch, following directions on face of breaker panel.**

FIFTH WORK MEETING _____

DATE _____

Preparation

1. Learn to identify and give the uses of different types of motors (4-H Electrical Bulletin 148, pages 12 and 13).
2. Have ready for the meeting two or more motors commonly used, to discuss with members. (These may be on equipment.)
3. Material cost records kept as you go along help make the final report accurate and meaningful. Insist that the members keep good records.
4. Allow time to make plans and assignments for the next meeting.

Procedure

1. President opens meeting. May ask other members to lead pledges.
2. Secretary takes roll. Either go on to business meeting **or** make plans for next meeting and do group work.
3. Discuss motors.
4. May assign these activities:
   - Have each member count the number of **electric** motors they use at home.
   - Count the number of **electric** motors found on the family automobile.
5. Work on projects.
6. Check materials needed for next meeting.

Play

Recreation Committee provides two active games.

Relay. – Separate the members into two groups, the same number in each group if possible.

Material needed – large size: men's slacks, shirt, shoes, gloves and hat. The first person in each group (who are standing in line) go across the room to the pile of clothes – first put on the gloves and then proceed to dress in the garments, remove these same clothes, and go back to the end of their line. The group finishing this relay first is the winner. Note:– Shirt must be buttoned and unbuttoned.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____ _____

Demonstrations _____ _____

_____ _____

Roll Call Topic _____ _____

Recreation Committee _____ _____

_____ _____

Other Committees _____ _____

_____ _____

NOTES

TEACH and DEMONSTRATE: Electrical Motors

What To Do

1. Take a motor apart and show parts (have an electrician help or get used parts from a motor repair shop).
2. Have members examine nameplates on several motors.
3. Discuss care of motor.
4. Show different types of motors and tell what they are used for:

Materials Needed

1. Motor parts — or motor that can be taken apart.
2. Several motors or appliances with motors on them.
3. Instructions for oiling a motor.

Procedure

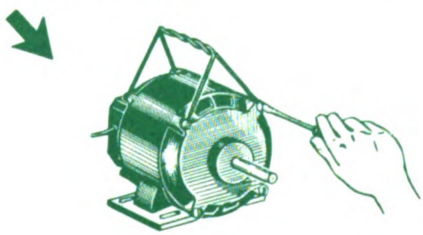
1. Show motor parts; point out bearings; discuss care of motor.
2. Compare information on the nameplate of several motors.
3. List number and size of motors in a home or on a farm.
4. Compare types of cords and plugs on motors.

REFERENCES:

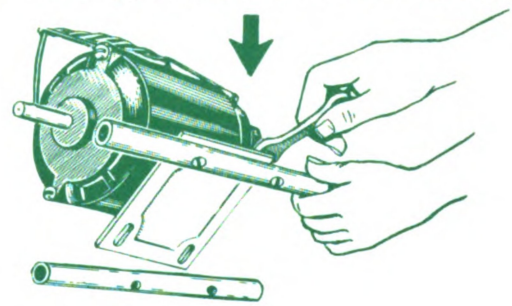
4-H Electric Project Bulletin
Wiring Simplified

PORTABLE MOTOR

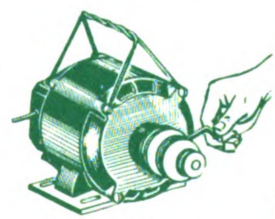
1. Twist the two pieces of No. 10 wire together. Fasten hooked ends under the bolts on the top frame of the motor.

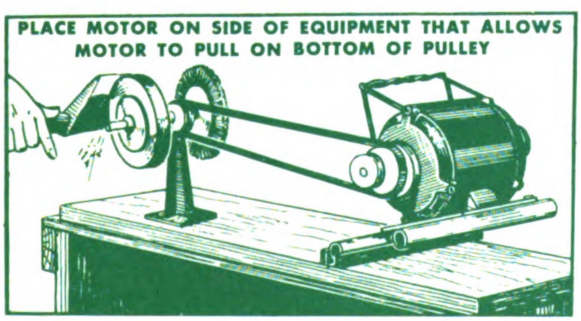


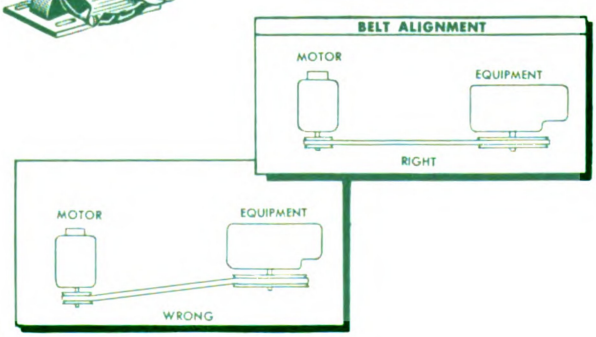
2. Fasten pipe to motor base with stove bolts.



3. Attach pulley to shaft, if necessary. The 4-step pulley makes it possible to use the motor to turn equipment at various speeds without changing pulleys. Place motor on side of equipment that allows motor to pull on bottom of pulley.







SIXTH WORK MEETING _____

DATE _____

Preparation

1. Good lighting is important to every member of the family.
2. Have several types of lamps of various heights and designs to show different lighting effects. Reference page 27.
3. Some articles constructed partly of wood will need finishing materials. The main points to keep in mind when finishing wood are:
   1. Make a smooth surface.
   2. Remove grease spots or discoloration.
   3. Remove excess glue, if glue was used for jointing.
   4. Remove dents in the wood.
   5. Fill holes and checks.
   6. Sanding.
   7. Apply finishes.
4. Allow time to plan and make assignments for the next meeting.

Procedure

1. President opens meeting. May ask other members to lead pledges.
2. Secretary takes roll. Either go on to business meeting **or** make plans for next meeting and do group work.
3. Hear reports of members who counted electric motors at home.
4. Discuss the importance of lighting.
5. Have each member show what he has accomplished to date.
6. Help members make a list of materials they need for finishing wood portions of their projects.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstration _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

Play

Recreation Committee provides two active games.

Guess:

- The diameter of a half-dollar.
- Number of safety matches in a package.
- How many keys on a piano? White? Black?
- Size of this room? Height of ceiling?
- Width of a newspaper column?
- (Make up others locally.)

TEACH and DEMONSTRATE: Effective Home Lighting

What To Do

1. Show the effects of glare, shadows, and amount of light by demonstration.
2. Show types of light bulbs.
3. Show types of portable lamps recommended for reading, studying, and other types of activity.
4. Ask power supplier representative to show lighting equipment.

Materials Needed

1. An extension cord with a bare light bulb.
2. A sheet of aluminum foil, sheet of tissue paper, newspaper, a 25-watt light bulb and 100-watt light bulb.
3. Different types of lamps – preferably some good lamps made by club members.

Procedure

1. Hold bare light bulb (100-watt) in front of newspaper – – it's hard to read because of the glare. Shield lamp with tissue paper to reduce glare.
2. Make a reflector with aluminum foil – – show how amount of light on newspaper can be increased. Explain that light may be compared to a water nozzle – – aim it at the object you want to see – – a wide spray to cover a large area, a narrow spray to increase amount of light on one item.
3. Have someone stand between light and paper. Move lamp about to reduce shadows.
4. Replace 100-watt lamp with 25-watt lamp. See how much harder it is to see with less light.
5. Show and explain different types of lamps.
6. Have members list the number and size of lamps in their own home or tour leader's house and do this.

REFERENCE:

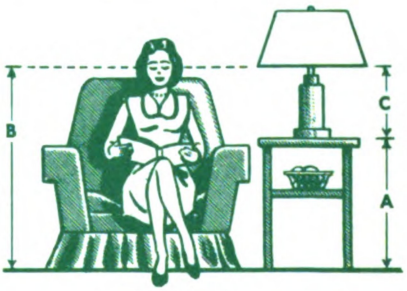
See Your Home in a New Light –
General Electric

For good see-ability table lamps and floor lamps must

- **produce the amount of light you need**
- **produce comfortable, glare-free light**
- **direct the light where you need it**

These are the three basic check points to use in determining whether your floor and table lamps are giving you the amount of light and the kind of light you need for reading.

Here is one way to determine approximate height of a lamp for a specific reading task.



Subtract the table height (A), from your seated eye height (B), to obtain approximate lamp height from base to lower edge of lamp shade (C).

The bulb should be located low in the shade.
The lamp shade should have a large enough lower diameter.

for table lamps — 14" minimum

for floor lamps — 16" minimum

The lamp is located in the proper position — slightly back and to one side of the chair — never directly behind the chair.

SEVENTH WORK MEETING _____

DATE _____

Preparation

1. Proper care of equipment is good management.
2. Have some old tool or piece of equipment handy to show that care and repairs can keep an article useful for many years.
3. Check members' projects — — Only one more work meeting.
   1. Is each member completing the required number of articles?
   2. Have you allowed enough time for finishes to dry?
   3. Do you have necessary information on the program at Achievement Day?
   4. You may find it necessary to schedule extra work meetings.
4. Allow time to plan and make assignments for the next meeting.

Procedure

1. President opens meeting. May ask other members to lead pledges.
2. Secretary takes roll. Either go on to business meeting **or** make plans for next meeting and do group work.
3. Discuss care and repair of equipment.
4. Finish up major work on projects.
5. Check materials needed for next meeting.

NOTES

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstration _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

Play

Recreation Committee provides two active games.

Gossip. — The players form in a circle. The first player whispers a sentence to the second, who repeats it to the third, and so on until the sentence goes all around the circle, the last one repeating aloud what he heard.

Stunt. — Touch the tips of the fingers together, except the middle ones, which are bent down to middle knuckle.

Separate father and mother (thumbs) and put together again.

Separate uncle and aunt (first fingers) and put together again.

Separate sisters (last fingers) and put together again.

Separate sweethearts (next to last).

(It can't be done very often.)

TEACH and DEMONSTRATE: Care of Electrical Equipment

What To Do

1. List the electrical appliances which need some care such as toasters, range, refrigerator, or sweeper.
2. Demonstrate care of one appliance, such as toaster or range.
3. Examine cords on different electric appliances.
4. Count the number of appliances in the home and have members decide where the electricity is used as a source of heat, power (electric motor), or light.

Materials Needed

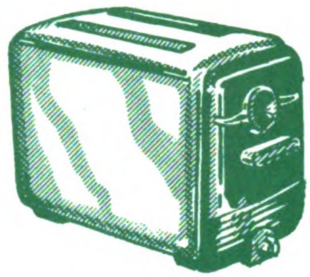
1. Information on care of appliances.
2. Cleaning materials – mild soap, soft cloth, soft brush.
3. A small heating appliance, such as a toaster or range unit that can be cleaned.
4. A small electric motor driven appliance that can be cleaned.
5. Manufacturer's recommendations on care of equipment.

Procedure

1. Show the care of a small appliance as recommended by a manufacturer.
2. Discuss the features that are desirable in appliances.
3. Have members read the nameplate on several appliances. Decide how many appliances can be plugged into a branch circuit.
4. Name the appliances in a home or on a farm and suggest what care should be given each piece of equipment.

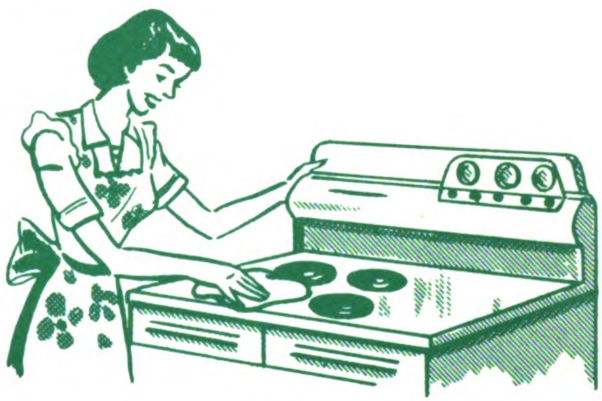
REFERENCE:

Especially for Girls
Westinghouse



TOASTER

Never immerse toaster in water. Wipe off outside with damp cloth. If toaster has no crumb tray use small brush to remove crumbs. Never wrap cord around base or store toaster until it is completely cool and disconnected. Interior heating element is self cleaning.



RANGE

1. Wipe off outside of range with warm, soapy water. Avoid letting spilled foods dry or harden on range.
2. Food spilled on surface unit will burn itself off. Never use a stiff brush or sharp instrument.
3. Some surface units can be raised and drip pan beneath removed for cleaning. Never twist unit when removing for cleaning — it may break off the wires. Other range models have surface units that plug out or lift out completely making it easy to remove drip pan and chrome ring.
4. Wipe oven with damp cloth when it has cooled after use. Remove spilled food as soon as possible.
5. Leave oven door ajar after use to cool and dry thoroughly.

LAST WORK MEETING BEFORE ACHIEVEMENT DAY _____

DATE _____

Preparation

1. Everyone makes out written reports of some kind — — let's do a good job!
2. Be ready to hand out final report blanks to each member (County Extension Office has supply).
3. Reports are due at least by Achievement Day.
4. A tag or label is needed for each article (County may furnish).

WOODLAND COUNTY 4-H EXHIBIT

Name _____ Age _____

Address _____

Article _____ Year's Work _____

Leader _____

Procedure

1. President opens meeting. May ask other members to lead pledges.
2. Secretary takes roll. Either go on to business meeting or make plans for next meeting and conduct group work.
3. Business meeting may include:
   - Plans for trip to Achievement Day.
   - Plans for other trips and tours.
   - Plans for meeting after Achievement Day (Local recognition and achievement program).
   - Explain how to make out final reports. Suggest parents assist, but not "take over".
   - Invite parents and friends of 4-H to participate in Achievement Day.
4. Put final touches on all projects.
5. Label all articles.
6. Repeat final plans for Achievement Day.

Next Meeting

☐ Business Meeting

☐ Work

Date _____ Time _____

Place _____

Demonstration _____

_____

Roll Call Topic _____

Recreation Committee _____

_____

Other Committees _____

_____

Play

Recreation Committee provides two active games.

Knocking a coin — — One player balances a small coin on his index finger. Another player stands back 8 or 10 feet, closes one eye, walks directly toward the coin and with a pencil tries to dislodge the coin from the finger. Generally the blow falls short of the mark.

A ring may be held between the thumb and forefinger. Close one eye, approach the ring, and try to run a pencil through it sideways.

TEACH and DEMONSTRATE: Good Reports

Purpose

Written Reports help to summarize and evaluate the project work.

They help –

- To show others what the member has accomplished.
- To encourage self improvement.
- To make members eligible for the 4-H Achievement certificate, 4-H Club pin, and other awards.
- To give training in record keeping for adult responsibilities.
- To qualify for contests.

Materials Needed

1. A project report for each member.
2. Price list (or purchase price).
3. Allow time for members to do a good job.

Procedure

1. Younger members may use pencil; older members should use ink. Neatness is important.
2. Help members with costs and values.
3. Encourage members to do and record more than the minimum required.
4. The story is usually the most difficult.

STORY SUGGESTIONS –

Why you joined the club.
Interesting things you did.
What I like about this project.
How has your project experience helped you and your family?
My plans for other 4-H Club activities.

REFERENCES:

Michigan 4-H Club Leaders. Guide.
4-H Club Bulletin 314A, page 19.

Keep regular accounts

Show your skill

Write a project report

I'm an author!

ACHIEVEMENT AND RECOGNITION PROGRAM

Plan

Date:

Time:

Place:

Whom to invite: (Members, leaders, friends of 4-H.)
Exhibit Display: One favorite or best article as selected by each member.

Publicity:

Program:

Refreshments: Serve light refreshments at end of meeting.

OR, a pot-luck dinner may be planned to serve at the beginning of this program.

OR, if money is available, group may plan to have experience of eating a meal together at a public eating place with recognition program held there.

Program

Get acquainted activities:

Singing:

U.S.A., 4-H Flag Pledges:

Demonstration: Two or three representing different project years.

Recognition:

- Members: Complimented by leaders, given pins and certificates.
- Leaders, parents, friends of 4-H: Appreciation shown by members for interest, effort, and understanding shown by all.

4-H Talent:

Where do we go from here: Leaders and junior leaders explain and briefly describe to parents and members the projects available in the next project season.

Recreation:

Procedure

Arrange for meeting place well in advance.

Appoint and work with committees

Publicity _____

_____

Hospitality _____

_____

Exhibit display _____

_____

Program _____

_____

Demonstration coordinator _____

_____

Recreation

Refreshments or dinner

Publicity

Send publicity of coming events to newspaper and radio.

Send cards or invitations written by members to all members, parents, and friends of 4-H who are invited. Send at least one month in advance, so this event can then be placed on their calendars.

Send a reminder card so it arrives 2 or 3 days before the meeting.

Entire community may be invited to better inform them of what is being done in 4-H.

Characteristics of Approved Lamps

Table Lamps

1. The height to top of shade should be 25 inches.
2. Diffusing
   a. Diffusing bowl 8 to 9 inches in diameter using 50 150 watt lamp bulb or 150 watt standard lamp bulb.
   b. Wide mouth harp using R-40 and 150 watt lamp bulb or 50 150 watt white indirect bulb.
   c. Fiber glass diffusing disc 11 inches in diameter using 50 150 watt lamp bulb or 150 watt standard lamp bulb.
3. The minimum diameter of shade bottom should be 16 inches and lower edge of shade should be 15 to 17 inches above table.
4. Shade should be white or light lined.
5. Cord extending from base must be 6 feet or more.
6. Ends of wire should be properly tinned before wiring.

Personal Grooming, Dressing Table, or Vanity Lamps

1. The height to top of shade should be 19 to 20 inches.
2. Shade should be white and should allow some light to come through the shade to light the face. The shade should be dense enough to conceal the lamp bulb.
3. Shade bottom diameter should be 9 inches minimum and at least 7 inches deep.
4. Use a 30-70-100 three-light frosted bulb or standard 100-watt bulb.
5. Cord extending from base must be 6 feet or more.
6. Ends of wire should be properly tinned before wiring.

Personal Grooming Dresser Lamps

1. Height to top of shade should be 24 to 25 inches.
2. Bottom of shade diameter should be at least 9 inches and at least 7 inches deep.
3. Shades should be white and should allow some light to come through the shade to light the face. The shade should be dense enough to conceal the lamp bulb.
4. Use a 30-70-100 three-light frosted bulb or 100-watt standard bulb.
5. Cord extending from base must be 6 feet or more.
6. Ends of wire should be properly tinned before wiring.

Lighting Activities Suggestions

These are activities of the type which a member could do in improving lighting around the home and farmstead. A look at the lighting facilities at home will suggest other possibilities. A lighting activity should be reported as outlined under "Required Articles List."

1. Clean bulbs, reflectors, and shades.
2. Check bulb size – replace with proper size.
3. Paint ceilings and walls white or a light color (in milk house, basement, laundry, shop), because light colors reflect light while dark colors absorb light.
4. Eliminate glare from bare lamp bulb whenever possible by using shade, diffusing bowl or disc, metal reflector, silver bowled lamp bulb, or valance.
5. Make a lamp or pair of lamps for a specific seeing task – i.e. study desk, dresser, or dressing table.
6. Show correct placement of lamps.

Electrical Safety Check List

This activity can be used to point out where the materials displayed on the cord and wire boards are used or should be used around homes and outbuildings, such as barns, garages, etc. Also this activity can be used by club members or as a club project to encourage parent interest and participation, since safety checks around the home should be a family project.

1. Replace broken plates.
2. Replace cords that:
   are frayed.
   have worn insulation.
   have cracked insulation.
3. Replace broken or cracked plugs.
4. Clean dirty, greasy, or soapy cords.
5. Use base board clips to keep cords off the floor to prevent them being walked on.
6. Remove cords that hang over nails, hooks, pipes, etc.
7. Where necessary, use twine or friction tape to hang cords over nails, etc.
8. Check electrical boxes for damage.
9. Examine exposed wiring for deterioration due to dampness, rodent damage, or mechanical injury.

(Note: The above list can be greatly expanded by the Club members. The Club might make an inspection of a house, barn, or entire farmstead, listing all of the potential trouble spots.)

Care of Small Appliances

AND SCRAPBOOK REFERENCES

Small Appliances

Vacuum Cleaners, Mixers, and Toasters

Suggested questions to be covered in scrapbook.

1. How many small electrical appliances do you have in your home?
2. How many attachments does your vacuum cleaner have?
3. How many jobs can you do with each of the following appliances:
   - Vacuum Cleaner.
   - Electric Mixer.
   - Toaster.

Things To Be Done

1. List some of the attachments for a vacuum cleaner.
2. Clean a vacuum cleaner.
3. Clean a toaster.
4. Use the attachments for a vacuum cleaner or an electric mixer.

Exhibits—Scrapbook

1. Pictures of things that can be done with two small appliances.
2. List all steps taken in care for appliances.

Demonstrations

1. The cleaning of a vacuum cleaner or a toaster.
2. The use of a vacuum cleaner and its attachments.
3. The use of an electric mixer or mixer attachments.

REFERENCE:
Electrical Demonstrations You Can Perform

Vacuum Cleaners

A. Read and follow manufacturer's instructions.

B. All types of vacuum cleaners require general care as follows:

1. Pick up sharp pieces of glass, hair pins, pins, and tacks before running the cleaner over the rug or floor. They may damage your cleaner or clog the hose.

2. Remove hairs and threads that collect on the brushes.

3. Oil as directed. If the motor requires oiling, use the right amount and kind of oil. Too much oil or the wrong kind of oil can be as bad as none at all.

4. Always put the vacuum and attachments away clean — free from dirt and oil. Keep attachments in a dry clean place; dampness rusts metal and mildews cloth.

5. Do not bend, twist, or step on the cord.
   a. Never run the cleaner over the cord. Do not pull the cord to remove the plug from a convenience outlet.
   b. Wrap the cord loosely around the hooks provided for it during storage.

6. Check the cleaner thoroughly once a year or more often, depending on use of cleaner. If any unusual noises or trouble develop within the machine, take it to a competent serviceman.

C. An upright vacuum cleaner requires extra care.

1. Adjust the nozzle properly. If the adjustment is not taken care of automatically, a small pedal or lever is generally located at the back of the nozzle assembly to make this adjustment. See instructions with cleaner for making adjustment.
2. Replace the belt if it is worn, frayed, or stretched, and will not properly drive the rotating brush.
3. Empty the dust bag after every general cleaning. Turn the bag inside out every few weeks and brush thoroughly with a stiff brush. Do not puncture bag.

D. Tank or cylinder vacuum cleaners require little additional care.

1. Empty bags often.
2. Check for clogged hose if cleaner is not cleaning properly.
3. If your cleaner uses throw-away filter bags, dispose of bag before it is completely full. Replace with a new bag.

E. Pot-type vacuum cleaners require some additional care.

1. Throw away filter bags before they are completely filled. Replace with a new bag.
2. If cleaner has filter cloth and allows the dirt to accumulate at the base, make sure this dirt is dumped out often.
3. If dirt is filtered by water, pour out dirtied water. Rinse and dry pan after each use.

Toaster

A. Read and follow manufacturer's instructions.

B. All types of toasters require cleaning.

1. Disconnect the toaster before cleaning it.
2. Remove the crumbs that gather in the toaster.
3. Use a damp, **not** wet, cloth to wipe off the outside.

C. The manual toaster can be easily cleaned and repaired, since the doors open out and leave the heating element easy to get to. Remove the crumbs that gather in the toaster. You can shake them out or use a soft, long-handled brush to remove them. A clean, dry pastry brush is a good choice.

D. Automatic toasters generally have a removable bottom panel for easy cleaning. When removing small slices from the automatic toaster with a fork, disconnect toaster and take care not to damage heating element with the fork.

E. Keep toaster in repair and handle it properly.

1. Never clean or store a hot toaster.
2. Do not try to clean the heating element. It cleans itself when the current is on.
3. Do not let fats get on the heating element. Don't butter bread before toasting it.

F. How to care for toaster cords.

1. Never wrap cord around base unless toaster has completely cooled.
2. Keep cord free from knots and kinks. If the cord is detachable, hang it loosely over a cord holder.

Electric Food Mixers

A. Read and follow manufacturer's instructions.

B. Clean and handle the mixer with care.

1. Disconnect the cord before cleaning mixer parts. Never submerge mixer in water.
2. Handle mixer bowls with care. To prevent cracking, avoid sudden temperature changes.
   a. For mixing, use the bowl which comes with the mixer. The shape of the bowl is important and helps determine the efficiency of mixing.

b. When you use the mixer, see that the blades just clear the bottom of the bowl on the turntable.

c. When you finish, remove the bowl and wash it like other kitchen utensils.

3. Remove the beater blades for washing, or rotate them in a bowl of warm soapy water and then rinse them in clear water. Wipe mixer with a damp cloth after each use.

C. Your mixer needs oil to operate properly. Lack of oil may make the mixer noisy, or slow, and not have enough power. Too much oil may be just as bad as too little.

1. Follow manufacturer's directions for oiling the motor. The right kind of oil, the right amount, and the frequency of oiling are important.
2. There is no risk of overoiling a motor if a wick is installed in the oil tube. The wick feeds the oil to the parts as needed.

Care of Major Appliances

Electric Refrigerators

Suggested questions to be covered in scrapbook.

1. What type of an electric refrigerator do you have in your home?
2. Does it have automatic defrosting?
3. What type of freezing compartment does it have?
4. Does your refrigerator have a special compartment for meats, poultry, fish, etc.?
5. Does your refrigerator have a special butter compartment?
6. Does your refrigerator have shelves in the door?

Things to be done.

1. List the features you would consider if you were buying an electric refrigerator for your family. The size. The type. Special features.
2. Defrost and clean a refrigerator.
3. Replace foods correctly in refrigerator.

Exhibit — — Scrap Book.

1. Pictures of both types of electric refrigerators.
2. Picture of an electric refrigerator showing food properly stored in correct positions.

Demonstrations.

1. Clean a refrigerator inside and out.
2. Show proper placement of food for storing in an electric refrigerator.

Refrigerator

A. Read and follow manufacturer's instructions.

B. Defrost refrigerators often with an automatic thermostat or by manually controlled dial.

1. When defrosting by automatic thermostat, leave the bottom tray of ice in the evaporator.
2. If you use manual defrosting, never let frost get over ¼ inch thick.
3. Never use sharp instruments to dislodge frost. Let it melt when defrosting.
4. Promptly empty drip water from defrosting. Clean the inside of refrigerator.

C. Refrigerators need frequent cleaning both inside and out:

1. Keep outside coils and exposed parts of the mechanism dust free.
   a. Always disconnect the refrigerator from the outlet before cleaning the mechanism.
   b. Use a long-handled brush, whisk broom, or the vacuum cleaner attachment which is used for cleaning pictures and walls.
2. Keep the inside clean and dry.
   a. Wipe the unit and inside walls with soda or borax water. A solution of 1 tablespoon of baking soda in 3 quarts of warm water is recommended.
   b. Never use soap on the inside.
3. Wipe up spilled foods immediately. Those containing acid may injure the glaze, making the surface hard to clean.
4. Wash the outside with mild soap and water. Rinse, using a cloth wrung out of clean warm water. Dry well with a clean cloth.
5. With soap and water promptly clean off grease or oil from the gasket around the door.

D. Use the refrigerator with care.

1. Do not overload the refrigerator with food which does not require refrigeration.
2. Use refrigerator dishes for storing foods which must be covered. Do not store in original paper wrapping unless the package is so labeled.

3. Do not place food in the refrigerator up against the walls. Place so that air can circulate in the refrigerator.
4. Fill ice trays to within ¼ inch of the top.
5. If yours is an older-type refrigerator, do not place it in close recessed wall space. Place it so air is free to circulate behind and over the refrigerator.
6. Open-type refrigerator mechanism requires periodic oiling and adjusting. Follow manufacturer's instructions.
7. Airtight-sealed units do not require oiling or adjusting. Most mechanisms should be cleaned occasionally.
8. Refrigerator motors generally operate from 15 to 30 percent of the time when the thermostat is set for the evaporator to maintain a maximum temperature of 28° F. and a minimum of 5° to 10° F. If the motor runs much more than a third of the time, check for air leaks or have a serviceman check the refrigerator.
9. Make sure that the gasket around the door fits snugly. Check as follows: Close the door on a new dollar bill. If the bill pulls out easily, there is too much air leakage. Have the door adjusted or the gasket replaced.

Home Freezers

Suggested questions to be covered in scrap book.

1. Do you have a Home Freezer?
2. If so, is it the chest, upright, or walk-in type?
3. How often do you need to defrost a freezer?
4. Do you need to remove frozen food while defrosting?
5. What is meant by "sharp-freeze"?
6. How much food can you safely "sharp-freeze" at one time?
7. How large a freezer should you have for your size family?

Things to be done.

1. List the things you would consider important if you were buying a Home Freezer.
2. (a) Completely defrost a freezer, or
   (b) Scrape the accumulated frost from the walls of a freezer.
3. Check the temperature in your freezer. What degree does it maintain?

Exhibits.

1. Pictures of two types of Home Freezers.
2. Picture of a Home Freezer well stocked with a variety of frozen foods.

Demonstrations.

1. Show how you protect frozen foods from thawing during the time freezer is being defrosted.
2. Show tools that can be used in scraping frost from walls of freezer and explain how to use them.

Home Food Freezer

A. Read and follow manufacturer's instructions.

B. Completely defrost the freezer once each year or according to the manufacturer's instructions.

1. Remove the frost when it is over ¼ inch thick. Use a dull-edged scraper to remove the frost from the plates and inside surfaces. This can usually be done without removing food from the freezer.
2. Clean the inside of the cabinet thoroughly. When there is the least amount of food storage, remove the packages of frozen food and cover them with a blanket or similar material to keep them cold.

   Some people prefer to defrost a freezer in winter when they are sure the food will stay frozen. Cut off the power to the freezer. Leave the doors open and allow the ice and frost to melt. After defrosting, wash the interior surfaces with a solution of 1 teaspoon of baking soda in 1 quart of warm water. Dry all surfaces with a clean, dry cloth. Put the unit into operation and return the packages of frozen food to the cabinet.

C. With the exception of defrosting, follow the same general care suggestions as for the refrigerator.

Cooperative extension work in agriculture and home economics. Michigan State University and the U. S. Department of Agriculture cooperating. Paul A. Miller, Director, Cooperative Extension Service, Michigan State University, East Lansing. Printed and distributed under Acts of Congress, May 8 and June 30, 1914. 11:58—5M

4-H ELECTRIC PROGRAM

Leaders Idea Book

TO *4-H Electric Club Leaders*

Congratulations on your decision to be a Leader in the 4-H Electric Program. Your decision has been a wise one; the satisfactions you will receive from having helped 4-H'ers progress in the knowledge of electricity will be worth every bit of energy which you put into this effort.

Your job is a challenging one, though, for you must keep at least one step ahead of the boys and girls with whom you work. They will be inquisitive, increasingly so as their scientific studies in school nourish their greater interest in the world around them. It will be your job to help them learn, and to keep their interest alive and intense.

This booklet is offered to help you in achieving that purpose. From it you will get ideas for meetings, sources to whom you may turn for assistance and a general idea as to what goes to make a 4-H Electric Program successful. There are additional literature aids available through your County Extension Office and the local offices of the Westinghouse Electric Corporation.

We wish you every success in your job. It is an essential one, and you have plenty of help if you only ask for it. We know that you will do well.

4-H Electric Development Committee
National Committee on Boys and Girls Club Work, Inc.
Westinghouse Electric Corporation

INTRODUCTION

Everybody is using more electricity, regardless of whether they live on a farm, in the suburbs or in the city. Likewise more 4-H Club Members every year are enrolling in the Electric Program.

This is a 4-H Electric Program Idea Book for busy 4-H Club Leaders. As a Leader you help 4-H Club Members progress both in the knowledge of electricity and in citizenship. One way of looking at this progress is to think in terms of helping the Club Members LEARN *how*, KNOW *how* and SHOW *how*.

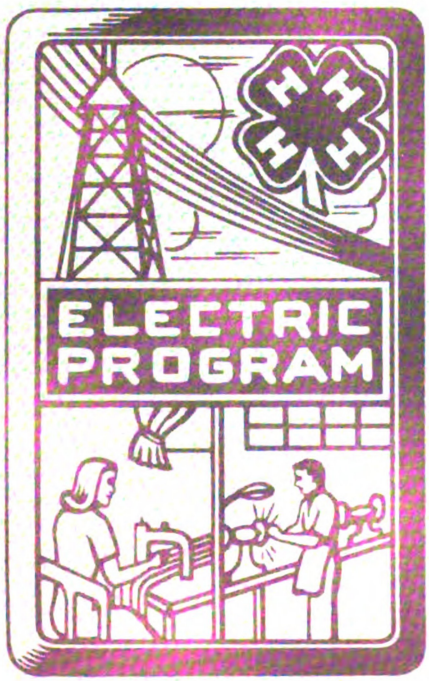
LEARN HOW: this includes helping the Club Member learn what is needed to complete a successful project or activity in a specific field. It includes learning fundamentals, applying fundamentals to provide a satisfying experience for the boy or girl, and combining fundamentals into more advanced information as the Club Member progresses.

KNOW HOW: includes the application of fundamentals in doing. When we say someone has "know-how" we usually mean that person has a knack for applying what they know to get things done, to achieve results. For 4-H Club Members this may mean building something, improving a system (or planning a system), making something, building a piece of equipment, making clothes, preserving food . . . any of the tangible results that come from the application of information.

SHOW HOW: there are two types of "show how"... the demonstration by one or more Club Members or the exhibit of finished products at round-ups, fairs, and other special events. Through the "show-how" activities the Club Member is showing others what he has accomplished as an individual and also what 4-H Club Members do. The "show how" gives the member additional satisfactions: it encourages other potential or present members on 4-H and demonstrates to parents and the community the value of 4-H work. Best of all, the "show-how" *teaches* something.

This Idea Book is designed to help you, the Leader, so you in turn can help Club Members "learn how" and "show how" . . . the *electric* way . . . and by so doing make them more informed, better citizens.

WHAT IS THE 4-H ELECTRIC PROGRAM?



The 4-H Electric Program is developed jointly by the Federal Extension Service, and the Cooperative Extension Service in your State through the 4-H Club Staff of your State. The 4-H Electric National Awards Program is administered by the National Committee for Boys and Girls Club Work, Inc., and the donor for the program is the Westinghouse Educational Foundation. Other award programs are administered by your State 4-H Staff with awards provided by State donors.

The purpose of this program is to encourage 4-H boys and girls to achieve the following:

- To develop leadership talents and to work toward achieving the broad objectives of character and effective citizenship
- To learn more about electricity and the proper use and care of electrical equipment
- To help others learn more about electricity and its uses.

Electricity plays an important role in making living more comfortable and farming more productive. Almost every phase of our everyday living is in some way affected by electricity. Therefore, whether the Electric Program is in your State a project by itself, or an activity as a part of the whole 4-H Program, it is important that 4-H'ers know something about electricity and the equipment which uses it. Moreover they can use that knowledge in most of their other 4-H activities, whether they live on the farm or in town.

TOOLS AND AIDS TO HELP MAKE YOUR PROGRAM SUCCESSFUL

Electricity is a great big subject because it is put to so many uses, and can be at times somewhat complicated. You will probably want some help in making it fully understood by your Club Members. The following help is available, and you will find that the more you make use of it, the more effective your program will be.

4-H Electric Guide Sheets:

Currently underway is a long-range program which will result in a series of Electric *Guide Sheets* for Club Members covering just about every subject which has anything to do with electricity and the products which use it. The Guide Sheets will have in them the important information about particular electrical subjects along with activities for the 4-H Member in learning and doing. The Guide Sheets list additional references and suggest demonstrations for you or the members.

How to use the 4-H Electric Guide Sheets:

The 4-H Electric Guide Sheets are *intended for members.* (This Idea Book is yours and for your use only, but the Guide Sheets should be distributed to your Club Members.) Some of the sheets pertaining to the fundamentals of electricity can be used as you would use a school text book. Remember, you are the teacher, and as such you will "guide" your pupils through these early sessions. Other Guide Sheets pertain to products, and will be ideally suited for demonstrations to really drive home the lesson. Still others will show your members how to build items as a group, which will not only be good for exhibiting, but valuable for their use in everyday activities.

As the Guide Sheet series is extended to cover more subjects, you will want to build meetings around individual subject sheets according to a "master plan." They will be stepping stones to greater electrical knowledge. You will want to arrange your subject meetings so that the easy subjects come first, and the tougher ones that come later will therefore appear easier. Although you are the teacher and guide, don't forget to let your members help you in planning and choosing the subjects and projects which they find especially interesting.

OTHER LITERATURE HELP

. . . *from your State*

You will find that your State 4-H and Extension staff has developed very useful literature for your use, in fact, it may have an entire program developed for your guidance. You should contact your County Extension Office to obtain this literature. They will also have information on your State's Program requirements and the Awards Program as it is carried out in your State.

. . . *from Westinghouse*

The Westinghouse Electric Corporation has prepared many booklets and movies about such things as demonstrations, equipment you can build, lighting, skits and plays, etc. These booklets have been prepared for you and your Club Members, and many of them are available free of charge. Your County Extension Office can assist you in obtaining these valuable materials.

PEOPLE TO HELP YOU

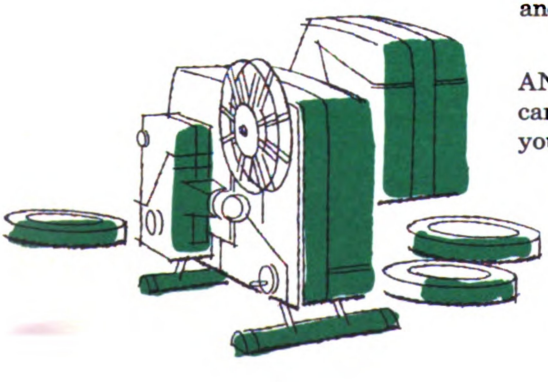
Your local Cooperative Extension Office personnel are available to assist with the Electric Program. They can help you plan the overall program or help you fit this project into your Club program.

In the State 4-H Club Office and State Cooperative Extension Service headquarters there are often specialists to help you with various phases of your program. They are vitally interested in the success of your Club and in the proper application of electricity. You can enlist the aid of these people through your County Extension Office.

POWER SUPPLIERS

Your local power supplier may be an important source upon whom you and your County Extension Agents can call for help. They will often help you prepare meetings on electric subjects, show movies, demonstrate or help Club Members develop demonstrations, help members with projects, and in general help make your program successful.

ELECTRICAL CONTRACTORS, ELECTRICIANS AND APPLIANCE DEALERS are often very willing and valuable helpers. They can help with instruction, provide meeting places and equipment to make your instruction more worthwhile.



JUNIOR LEADERS

Your older Club Members can be a valuable asset to you in Club work. They can help in planning, with meetings, demonstrations, and projects; they can help make arrangements for tours and outside meetings, help keep records, contact power suppliers to help with meetings, set up special exhibits, arrange for meeting places, and many, many other matters. In turn, the added responsibility of leadership will, in most cases, stimulate their continued interest in Club work.

You should ask yourself some questions, though, before fully delegating Junior Leader responsibilities. A good Junior Leader should have most of the following qualities:

- a sincere interest in helping others learn
- a good sense of humor
- a good sense of planning
- some speaking ability
- the respect and friendship of fellow Club Members.

A sound staff of Junior Leaders can indeed help make your Club a strong, worthwhile activity.

PARENTS

Parent interest and cooperation are essential for the successful 4-H Club Program. You will be wise to keep parents aware that their cooperation is important. In turn, you will find that most parents will be happy to be of help to your Club Program.

Here are some of the ways which Leaders have used to successfully enlist parents' support:

- Hold regular meetings in parents' homes
- Invite parents to meetings—Leader extends invitation as well as the member
- Have special social events with parents as only outside guests
- Hold special events for the public or community to which parents receive special invitations
- Talk to parents along with prospective member during enrollment time
- Always obtain parental consent for members enrollment in Club work and for tours and trips
- Keep parents informed of what your Club is doing and why.

WHAT DO BOYS AND GIRLS DO IN THE ELECTRIC PROGRAM

One of the things which makes the Electric Program appealing is the fact that it permits a wide variety of activities which can be selected by individual Club Members according to their interests.

The Electric Program cuts across most other projects. The knowledge obtained in the Electric Program can be applied almost universally—for instance—in Clothing or Frozen Food Programs the primary equipment is electrical; electric milking machines are important in the Dairy Project; knowledge of electricity and electrical equipment is important to Home Improvement and Home Economics; electrical know-how and the Safety Project fit hand-in-hand. And, so across the board, electricity is an important factor throughout most all 4-H Projects.

Club Members should, of course, have a firm knowledge of the fundamentals of electricity—what it is, where it comes from, and how it gets to the user. Once the fundamentals are well-in-hand your projects can take many different courses. Here are some ideas:

- Care and maintenance of electrical equipment —this can include studying the manufacturer's instructions on cleaning, lubricating, servicing, adjusting, storing, and inspecting for safety
- Learning to use electrical equipment properly and profitably
- Building useful electrical equipment
- Making simple repairs on electrical equipment
- Performing electrical demonstrations to teach others about the proper application of electricity
- Helping Club Members in other projects apply electricity in their projects and demonstrations
- Planning new or improved uses of electricity
- Helping with group and community electric activities.

MEMBERSHIP

Your Club may be organized as an *Electric* Club or it may be that you have a few taking the Electric Project while others participate in many different programs devoting only part of their time to electrical activities. Whichever is the case, they will want to know what opportunities exist in Electric Project work. If you are organizing a new Club, prospective members will be interested in knowing about the activities which make the Electric Project so worthwhile.

This book contains many ideas for projects. Undoubtedly you have many more ideas. You can best interest prospective members by talking *enthusiastically* about the things which people do in the Electric Program. Present Electric Project Members are always a big help in interesting new members, so you can enlist their help, too.

If the members of your Club are working on a number of different programs, it is possible to gain their interest in the Electric Project work by creating a Group Project which has to do with electricity. Whereas building a lamp, or a motor, or giving a demonstration are things for *an individual* to do, *your Club* can participate as a group in an electrical survey, electrical safety study, a tour of a generating station, or a rewiring project. Many is the time that the interest gained in a *Club Project* can stimulate a member to continuing active participation in Electric Projects.

New members are of course necessary to keep your Club in operation. Many boys and girls start in 4-H work because their friends are in it. Others need to be asked. Your County Extension people can be helpful in assembling a list of potential members and ways to arouse their interest. Oftentimes local school officials are most cooperative in helping you get new members. Former 4-H'ers and parents can help you too. Get in touch with them, and ask for their cooperation. Remember though, you are the one who will finally secure the boy's or girl's interest in an Electric Project. It will be you that they will look to for guidance.

MAKE A PLAN OF ACTION

Just about every successful undertaking achieves its goal because it is well-planned in advance. This applies to 4-H work as well as to anything else. You want your Club to be a success, therefore you must have a plan—it is best to have one for the year as well as for each meeting.

In developing your plan, think of these principles:

Plan the objective

Layout the best way to achieve it

Ask yourself, "What help do I need?"

Now review it to see if it's practical for your Club.

You and the local Extension Service representative will want to set up a tentative calendar for the year. One might read like this:

September	Attend Leader Training sessions. Enrollment recruiting drive.
Fall	Teaching fundamentals of electricity or reviewing previous year's work. Tour to power generating station.
Winter	Work on Club Projects and begin individual projects. Visit to appliance dealer or electrical contractor.
Spring	Have Club Project on outdoor lighting. Visit all-electrical farm or industrial plant.
Summer	Prepare exhibit for County Fair. Make sure members bring record books up-to-date if they intend to enter County and State competition. Appliance picnic. Have achievement meeting.

A 4-H Club's Program and Meeting Plans are most successful when (1) they are tailored to local conditions and needs, and (2) the program and plans are cooperatively developed by the Leader together with Club Members. Now consult with your Club Members on the details of individual meetings and trips. The more Club Members who participate in planning the meetings, the greater will be the interest in Club activities.

Once you have pretty well decided on the subject matter for each meeting, and the frequency of the meetings, it is wise to have this information mimeographed so that each member and his or her parents can have a copy.

THE MEETING

The meeting is, of course, the heart of the 4-H Electric Program. Good meetings will maintain the success of your Club. To be good, they must move along without losing your members' attention. Good meetings have variety and are fun; they start on time and end on time, and rarely last more than 1½ to 2 hours. Movies and slides help break up the routine and keep the action moving. (Maybe one of your first Group Projects could be to have all members learn how to operate a movie or slide projector.) Above all, remember that your meetings must be keyed to the age level of the members in your Club. Don't be too complicated, but don't make things too simple either. Keep things on their level. You will be able to tell how well you are doing by the reaction of the Club.

Have as many members participate in each meeting as possible. Club officers of course will participate; other members should be encouraged to give demonstrations or talks as often as possible so that they feel a part of the Club. It is a good idea to make out a meeting planning sheet prior to each meeting listing the responsibilities of each member participating, as well as the schedule of events.

A typical meeting plan might be as follows

7:20 P.M. . . . Get acquainted time—get things moving as members arrive with electrical games and puzzles.

7:30 P.M. . . . President calls meeting to order

Group singing and 4-H Pledge and Pledge of Allegiance

Roll call (answer by giving some electrical information)

Business and announcements

Electrical demonstrations

An electric movie, illustrated talk or filmstrip

Question and answer period

Play electric "baseball."

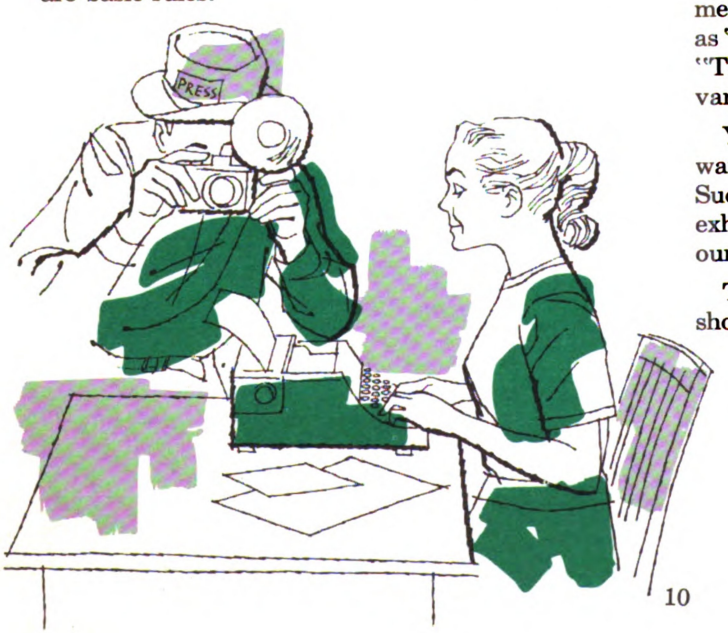
9:00 P.M. . . . Adjourn.

PUBLICITY FOR YOUR CLUB

Publicity on Club activities, outstanding work of members, special events and general 4-H Club happenings does four things:

- It keeps the community aware of 4-H and your local Club.
- Members (or their parents) see their names in the news which stimulates their interest.
- Your 4-H Club is established as an active Club.
- It gives public recognition to accomplishment.

When preparing a news story for the newspaper (also for radio, TV or any other news media) there are basic rules:



- Be sure to tell what happened?
  who was involved?
  when did it happen?
  where did it take place?
  how did it happen?
  why?
- Put the who, what, when, where, how and why in the first sentence (your lead). Give the story in a nutshell.
- Develop each of the above in the news story. Write the most important information first, then follow with less important. (Editor may not have room for your entire story. He will cut paragraphs from the end.)
- Include people's names (but do not try to make a list of names into a story).
- Find out the deadline for news stories—especially if you are providing stories for a weekly paper.
- If you supply pictures, be sure blacks and whites contrast and the picture is identified with a caption (what, who, when, where, how and why—for the picture).

THE BRAINSTORMING GAME

Your Electric Club work will be more exciting if from time to time new ideas are developed. These ideas should come from Club Members if at all possible, to make them feel more a part of their Club work. One very effective way of getting new ideas is to play the BRAINSTORMING GAME.

This is essentially encouraging your members to think about new things without being influenced by negative attitudes; for the period of the game your members will not be allowed to make comments such as "We've done that before and it wasn't any fun," or "That'll never work." What you want is as many varied ideas as possible.

You will first want to choose the question you want to explore well in advance of the Club meeting. Such a question could be "What would make a good exhibit for the County Fair?" or "What should be our next Group Project?"

The secret of Brainstorming is competition. You should divide your Club into groups of no more than

seven members. Each of these groups will be in competition with the others to come up with the MOST ideas. Each group should elect a secretary to take down the ideas as each is suggested and to report to the whole group after each Brainstorm. Each group might also choose a name for itself to add to the fun, something like the "Hot Wires," or the "Wattkateers." You might give a prize to the group who has the most ideas on the main subject at the end of the session.

Just as a coach limbers up his athletes before a game, you will want to limber up your thinkers. Start them off on some easy subjects like cartoon captions or humorous picture captions before approaching the main subject. Show them a picture, and then ring a bell when they are to begin submitting ideas. Give them a specified amount of time on each subject, no longer than seven or eight minutes. The first few practice sessions should be very short. After four or five practice sessions you can give the groups the main question, and let them go to it. Remember, though, no negative judgments, just *ideas*.

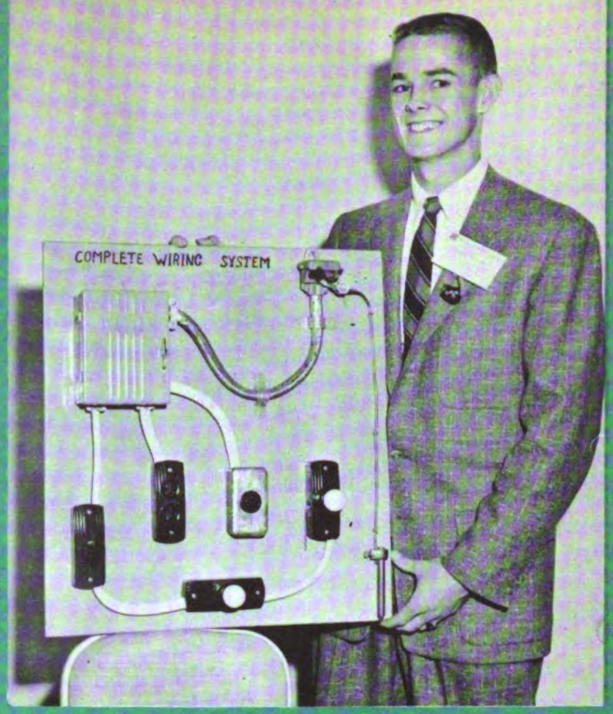
Following your Brainstorming session, you and your Junior Leaders can sit down and go over the ideas from the critical point of view, taking those with merit and putting them into practice.

LET'S DEMONSTRATE

Demonstrations are one of the most effective ways of teaching with lasting effect. They are doubly effective for the person giving them in that they serve to make him both the teacher and the learner at the same time.

It might well be that for the younger 4-H Members the actual word "demonstration" is a little frightening. You can overcome this quite easily, however, by not referring to the word itself, but rather by saying something like, "Would you show me *how* to do that?"

You as a Leader, of course, will give lots of demonstrations. To make these demonstrations more effective, and to make it easier for you to organize them, you will find it advisable to make a "Demonstration Kit." This kit should contain an assortment of good electrical tools, plus some typically electrical devices. A typical kit might include the following items:



Pliers—with insulated handles
Screwdrivers suitable for electrical work
Knife
Various standard sizes of electrical wire
Plugs, of various types
Sockets, of various types
Magnet
Assortment of lamp bulbs
Assortment of reflectors
Switches, of various types
Outlet box
Fuse assortment
Other items as you require in your various demonstrations.

(One of your first electrical demonstrations could very well be on the proper use and care of the tools in your kit.)

The sooner that your Club Members begin to make their own demonstrations, the better. No matter what you choose to call your demonstration activities, the more of them which each Club Member gives, the more he or she will feel an important part of Club work. Demonstration material both simple and complex is just about everywhere. Electricity does so many things in so many different ways that there are literally thousands of demonstrations which can be performed.

Here are some examples for a start:

You study or read with an electric light: where should that light be located? how should the shade

be cleaned? what type of reflector should it have? how can you be sure it is electrically safe? These things can be answered simply by a demonstration —words together with *showing* how.

Here are some others:

Tell and Show:

How to repair an electric cord
How to make an extension cord
How to install a drop cord socket
How to make an electric pig brooder
How to make an electric lamb brooder
How to brood chicks with a heat lamp
How to make a poultry water heater
How to make a small electric motor portable
How to make an insect trap with a light bulb
How to make an automatic switch with an alarm clock
How to wire a simple bell circuit
Results of improper wiring on operation of heating appliances
How to use an electric soldering iron and make splices
How to replace a wall switch
How to make an electric fencing model
How to read an electric meter
How to prevent water pipes from freezing by the use of electricity
How to make a toy electric motor
How to make a test light
How to use heating cable in a hotbed
How to make home-made lamps
How to improve an old lamp
How to clip dairy cattle electrically
How to cover an old lamp shade frame
How to make electric driven ice cream freezer
How to install a ventilating fan
How to make an egg candler
The proper use of an electric de-horner
The uses of as many kinds of light bulbs as you can find
Make a collection of different wire sizes (exhibit them and give a short talk on their uses)
Demonstrate the uses and sizes of different type safety devices (such as various fuses, switches, guards, etc.)
Use and care of a kitchen appliance such as a mixer, roaster, etc.
Use and care of a household appliance such as a cleaner, sewing machine, etc.
How to make a wiring layout
Care and use of fans
How to reverse an electric motor
How to have good light, good sight

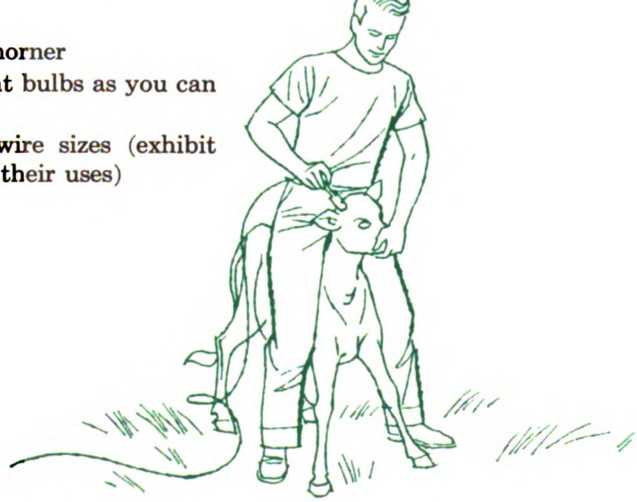
Add Others to Your List.

Girls' Individual Demonstrations:

Better Lighting in the Home
Broiling on an Electric Range
Using the Electric Cleaner
Making an Electric Lamp
Repairing an Electric Cord and Plug
How to Use Your Steam Iron
The Use and Care of an Electric Mixer
How to Clean and Oil the Electric Sewing Machine
Use of Electric Mixers and Attachments

Girls' Team Demonstrations:

Uses of the Electric Fan
Adequate Wiring for Kitchen and Utility Room
Lighting a Study Area
Selection, Care, and Use of an Electric Sweeper
Better Light for Better Sight
The Effect of Color on Lighting
Selecting Small Electrical Appliances
Selection, Care, and Repair of Cords
Revamping the Reading Lamp



Boys' Individual Demonstrations:

Proper Installation and Use of an Electric Fence
Making a Safe, Attractive Study Lamp
Making a Portable Outdoor Light
How to Make a Heat Lamp
Installing Light with Two 3-way Switches
Making Electrical Lamp from Kerosene Lamp
Proper Fusing for Motor Protection
Making an Electric Motor Portable

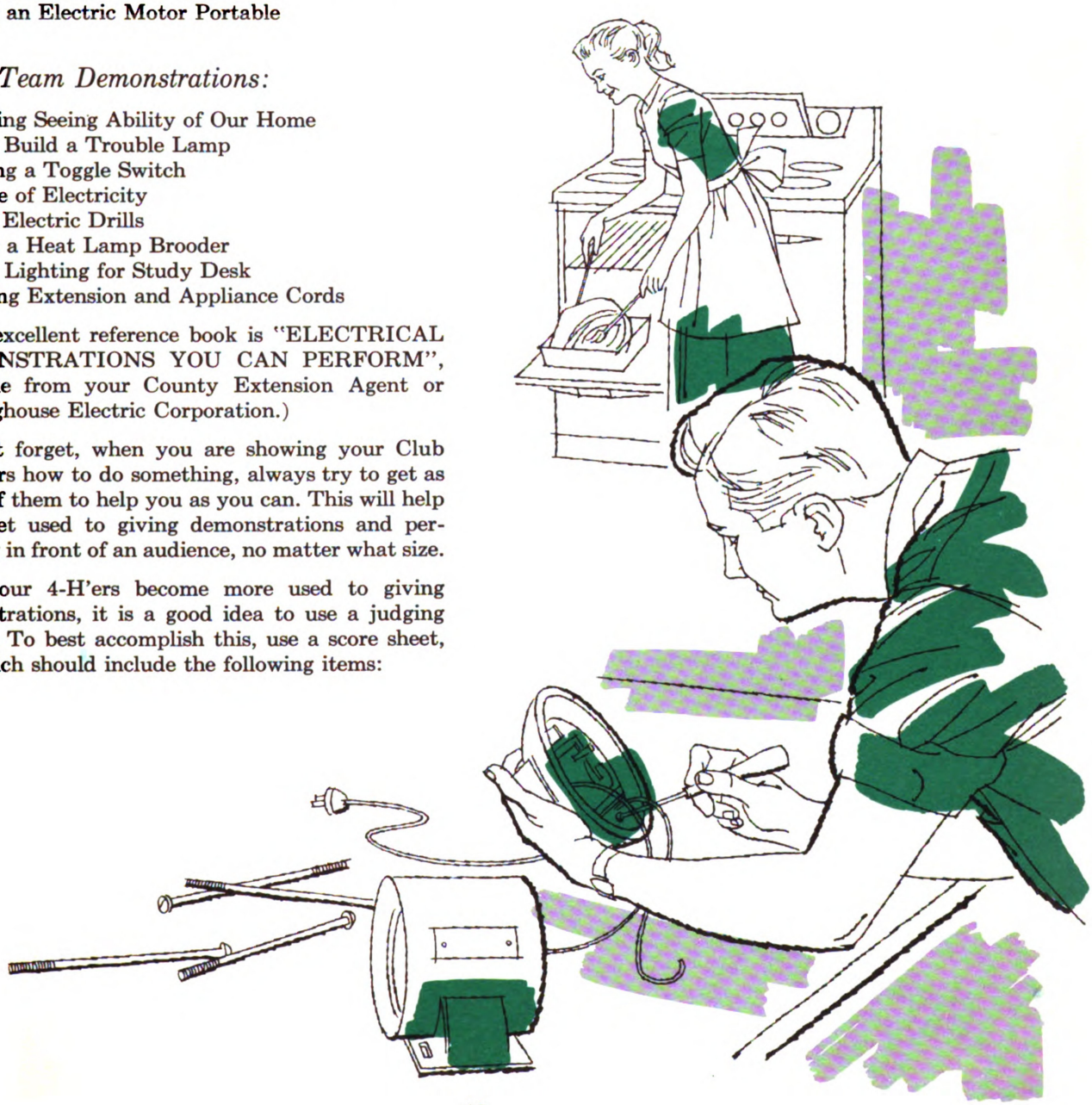
Boys' Team Demonstrations:

Improving Seeing Ability of Our Home
How to Build a Trouble Lamp
Installing a Toggle Switch
Safe Use of Electricity
Care of Electric Drills
Making a Heat Lamp Brooder
Correct Lighting for Study Desk
Repairing Extension and Appliance Cords

(An excellent reference book is "ELECTRICAL DEMONSTRATIONS YOU CAN PERFORM", available from your County Extension Agent or Westinghouse Electric Corporation.)

Don't forget, when you are showing your Club Members how to do something, always try to get as many of them to help you as you can. This will help them get used to giving demonstrations and performing in front of an audience, no matter what size.

As your 4-H'ers become more used to giving demonstrations, it is a good idea to use a judging system. To best accomplish this, use a score sheet, one which should include the following items:



Suggested Demonstration Score Card

Organization:

1. Introduction brief and interesting ..... ☐
2. Material logically organized ..... ☐
3. Conclusion sums up briefly and accurately ☐
4. Demonstration easy to follow ..... ☐
5. Length of demonstration appropriate to subject ..... ☐

Demonstration Materials:

1. Equipment in good order ..... ☐
2. Signs and charts readable ..... ☐

General Comments:

Presentation:

1. General appearance of demonstrator good. ☐
2. Voice clear, distinct and can be heard .... ☐
3. Manual skills exercised well ..... ☐
4. Each step carefully and adequately explained ..... ☐
5. Demonstration gives knowledge of subject ☐
6. Questions asked for and answered ..... ☐
7. Does demonstrator tie subject matter to personal experience? ..... ☐

Is this suitable for outside groups?

Yes ☐ _____ No ☐ _____

BUILDING ELECTRICAL EQUIPMENT

Electrical demonstrations are only part of the fun of 4-H Electric Program work. Members have a wide selection of both Individual and Group Projects in building electrical equipment which can not only be attractive but highly useful. Not only can they build new things such as lamps, but they can repair or maintain currently existing electrical equipment. Much of the equipment which members can build is well suited for demonstrations and then for exhibiting as part of your Fair activities. Older members will be more interested in and capable of doing individual and original creative projects. They will need your occasional guidance more than your direction, whereas the younger members will need your careful direction and will work better in Group Equipment-building Projects.

Here is a partial list of ideas for Equipment-building Projects, listed more or less in order of difficulty:

Make or Build:

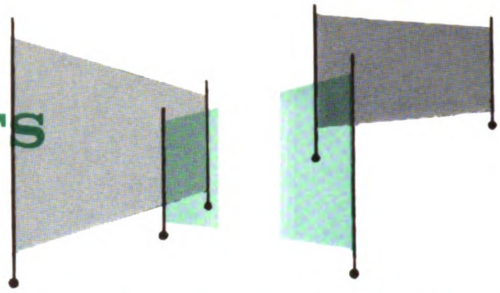
Splices and connections
A toy motor
An extension cord
A wire-size display board
A trouble light
A test lamp
A tool box
A tool holster
Pin-up or desk lamps
Floor lamps
4-H Quiz Board
4-H Lighted sign
Single, 3-way and 4-way switch panel
Lighted house number
Electric egg candler
Tobacco or fruit grading light
Ventilating fan
Electric ice cream freezer
Lamb, pig, or chicken brooder
An egg cooler
Valance or cornice lighting
Electric hotbed
Power saw or drill press
Air compressor
Speed reducer for motors
Electric grain auger
Electric lawn mower
Poultry house lighting system
Yard lighting system

There are many more things to make. You and your Club Members will find them with ease. Your County Extension Office can provide you with many of the instructions for building equipment in the above list. (An excellent reference is the booklet "ELECTRICAL EQUIPMENT YOU CAN BUILD," available from your County Extension Office or the Westinghouse Electric Corporation.)

MAINTENANCE

4-H'ers can do a great service to their family and neighborhood by undertaking some of the simpler maintenance and care of electrical equipment. It should be remembered, however, that a knowledge of the fundamentals of electricity and electrical safety must be obtained before undertaking maintenance activities. Furthermore, it is wise to leave big or complicated repair to those who are recognized repairmen, just as you would probably leave the overhauling of your automobile engine to the automobile mechanic. Club Members keep electrical equipment and appliances in good operating order through preventive maintenance and proper care. Manufacturer's instructions should be studied so that minor difficulties might be corrected without the necessity for a serviceman.

EXHIBITS



The exhibit is vitally important in 4-H work. It is a means for 4-H'ers to display the equipment which they have built. Together with the demonstrations which 4-H'ers perform, the exhibit is your Club's contact with the general public, as well as with other 4-H Clubs and projects. In the minds of the people which see your exhibit, it is your 4-H Club. Therefore, you must tell the story which you wish to tell as well and effectively as possible.

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 Club Members will be in a good position to make good exhibits because of their knowledge of lighting, motors, and other electrical devices. Not only can you tell about your Electric Projects and show the finished product, but you 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 that it will be remembered
- Make it attractive and neat
- Make it attention-getting
- Don't try to put too much into one exhibit

To tell the public something about 4-H Electric Club work, you will want to tell them something about what you have done over the year. Outstanding examples of equipment which has been built or wiring plans that have been developed are good things to show. Members' Record Books will add interest to the exhibit. Wiring safety is always a good message to visually display, as there are many homes and farms which are in need of rewiring.

Where will you exhibit? You will probably exhibit at the County Fair and at Community Day events. National 4-H Club Week and National Electrical Week are two times when 4-H Electric Displays are most timely. Your Power Supplier might be quite willing to give you a window in the local office during these weeks. An electrical dealer or electrical contractor might be equally willing to make certain display space available for a limited time so that your Club can tell its 4-H story.

If you have a 4-H Club Achievement Day or Parents' Day, then your Club Members will want to put on an exhibit of what they have done or have built during the year. It is a good idea to set up a judging system and award some sort of ribbon or other commendation for outstanding work.

JUDGES' COMMENTS

		Satisfactory	Needs Improvement
WORKMANSHIP	30	☐	☐
Planning		☐	☐
Purchased vs. Made		☐	☐
Quality—Electrical		☐	☐
Quality—Mechanical		☐	☐
Materials—Practical		☐	☐
USEFULNESS	30	☐	☐
Functional		☐	☐
Educational		☐	☐
Recreational		☐	☐
SAFETY	20	☐	☐
Electrical		☐	☐
Mechanical		☐	☐
ORIGINALITY	20	☐	☐

Notes:

A TYPICAL EXHIBIT JUDGING CARD*

* See your County Extension Office for your State's Exhibit Judging Card.

SURVEYS:

The survey is a good project in which all Club Members can take part with enthusiasm. In addition, electrical surveys in many cases are of much benefit to the farm, home, or community. There are many areas in which surveys are constantly needed.

To get your Club Members in a "surveying" mood, you might start them out with an "Electric Motor Hunt." This could be set up as a contest between individuals or groups of individuals to see which can locate the largest number of electric motors around the meeting place. This is especially fun if it can be done in the summer at a farm which uses electricity in many places. Small motors such as are to be found 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; here is a partial list:

For Beginners:

Survey of lamp wattages
Survey of motor ratings
Survey of appliances in use (and not in use)
Survey of all electrical equipment in home or farm
Hunt for frayed or bare wires in home
Desk light survey
Use of electricity in other project survey
Electrical hazard survey

For Advanced: . . . (advanced surveys should lead directly to a larger project)

Survey home wiring system and make diagram

Survey farm wiring system and make diagram—determine if adequate

Survey of lighting in farm or home determining adequacy of illumination for job being done

Survey of jobs being performed in farm or home to see if they could not more efficiently be performed electrically

FIELD TRIPS

Field trips can provide interesting and educational variation for Club programs. They are also an opportunity to have Club Members see applications and learn subject matter through actual association and experience.

There are some important things to bear in mind when planning a field trip:

- Determine what the field trip should accomplish.
- Determine where Club Members will see or experience whatever is necessary to accomplish the objective.
- Explain to the field trip host what it is that you desire the trip to accomplish.
- Allow enough time or explain time limitations to field trip host.
- Explain trip thoroughly to Club Members and make sure that they ask for and receive parents' consent for trip. A mimeographed arrangement sheet is a good idea.

A trip should not be overly complicated, nor should too many different things be included in the trip—the educational value becomes buried.

Interesting trips may be taken to power stations, electrical dealers, contractors, industrial plants where large amounts of electricity are used, or where electrical products are manufactured, to all-electric farms, and many other places where Club Members can see electricity in actual operation.

AWARDS

There are many different awards available in the 4-H Electric Program for, after all, an award is much like 'a pat on the back' in recognition of a job well done. Your Club may have a series of ribbons to honor outstanding equipment or demonstrations. Your county probably has a series of awards, which may include ribbons, or cash prizes or electrical equipment prizes. In many places, power suppliers are donors of awards for outstanding work in the 4-H Electric Program. To find out what local and state awards your interested members might try for, it is best to consult your County Extension Office.

The 4-H Electric National Awards Program is sponsored by the Westinghouse Educational Foundation and administered by the National Committee on Boys and Girls Club Work, Inc., in cooperation with your State Extension Service and 4-H Staff.

What are the Awards?

COUNTY. . . Maximum of four gold-filled medals of honor for blue award group of 4-H Members in each county.

STATE. . . All-expense trip to the National 4-H Club Congress in Chicago.

NATIONAL . . . Six $400 college scholarships to State trip winners in blue award group.

Who is Eligible?

Boys and girls enrolled during the current year in 4-H Club work may participate in accordance with requirements of the State Extension Service. Full information about the regulations, records required, and reporting date may be obtained from the County Extension Office.

To be eligible for State Trips and National Scholarships, participants must have passed their 14th birthday and must not have passed their 21st birthday on January 1 of the year in which the trip is taken, and must have completed at least three years of 4-H Club work including the current year.

What Has to be Done?

If your members are going to compete for state and national awards, here is what they should include in their 4-H Electric Program Achievement Record:

- His (or her) photo—a clear, glossy print of head and shoulders, about 3½ x 5½ inches is best.
- A table of contents highlighting their experiences.
- Standard Report Form or summary of Club work, filled out as completely as possible with emphasis on their Electric Program work.
- His (or her) 4-H Club story, typewritten, if possible. This should be a brief story or narrative summarizing their experiences and achievements while a 4-H Club Member as recorded in your record books.
- His (or her) 4-H Electric Program summary. This should be a condensed summary on their experiences and achievements in the Electric Program. Tell their reasons for selecting the electric project or activity, and describe the growth and size of the project, what they accomplished, what was learned, how they used the information and experience and how they shared it with others.
- Electric project or activity pictures. Use only those which tell the story best. Identify the pictures and persons by captions.
- Selected news clippings about their project or activity, and honors and recognition they have received. Place one over the other like shingles on a roof.
- Summary of the awards and recognitions they have received.
- Correspondence and significant letters and telegrams concerning their 4-H Club work.
- His (or her) Electric Program record book. Record books from previous years may also be included.

Award for County Program . . . (available only in States accepting plaque offer)

A handsome plaque, appropriately embossed, will be awarded to the county reporting the most outstanding 4-H Electric Program in the State.

Each county submitting a report on "Form 3—Special Report on County-wide Electric Program" to the State 4-H Club office before the date specified by the State Club Leader will be considered for this award.

The report form is available, upon request, from the State Club office and the National Committee on Boys and Girls Club Work, Inc., 59 East Van Buren Street, Chicago 5, Ill.

Obtain a 4-H Electric National Awards Program leaflet for each of your Club Members from your County Extension Office.

RECORD BOOKS

Record books are an essential part of 4-H work. You, as a Leader, will want to keep records as to attendance of Club Members, their performance on demonstrations, participation in projects, and other activities. The Treasurer and the Secretary of the Club will keep record books on Club finances and meetings.

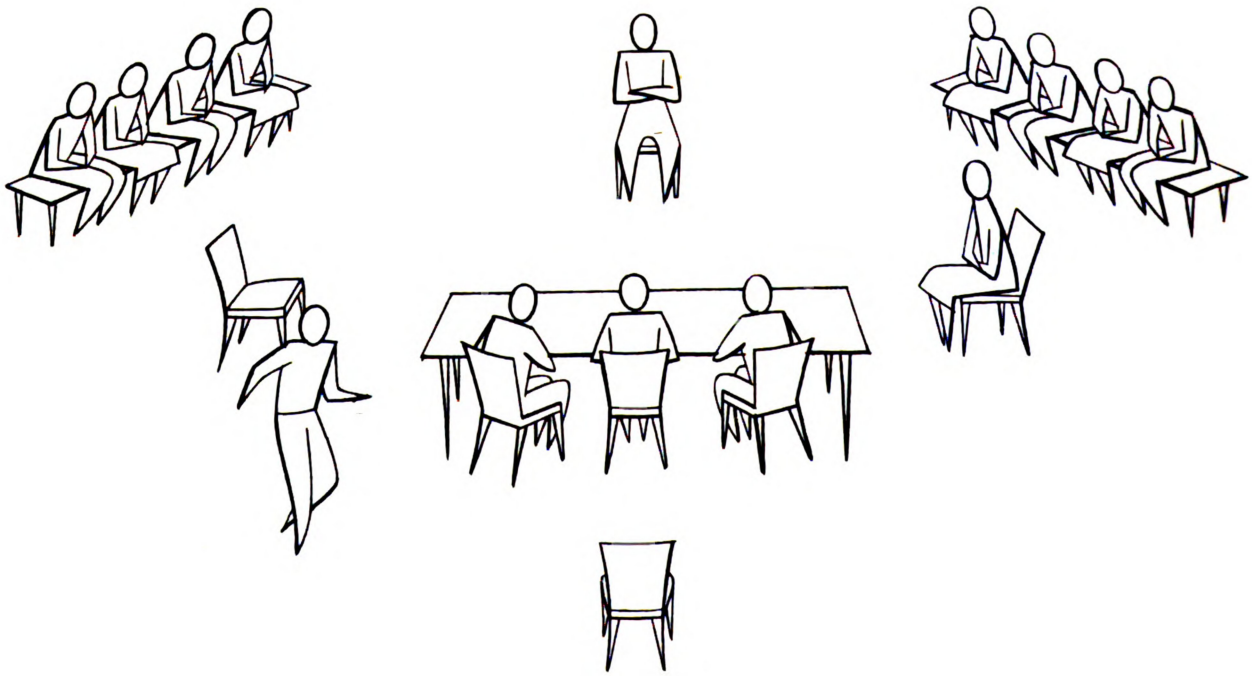
Especially essential, however, is the individual member's *Record Book*. The member should have a fairly complete history of his or her activities in the 4-H Electric Program not only to compete in the Awards Program, but to show an individual's accomplishments in the project and serve as a basis for recognition for worthy achievement. The *Record Book* also serves to remind the 4-H'er what he or she has learned in electrical project work.

The *Record Book* should be differentiated from the "Memory Book." The latter can be more or less a scrapbook to contain those items not definitely a part of the member's 4-H record—programs from County events in which the member does not participate, clippings about the Club, and other miscellaneous items can be included.

The *Record Book* is easiest maintained if kept up to date at all times. It might be a wise idea to devote some time periodically in a meeting for maintenance of the *Record Book*. Your outstanding members might desire additional advice from you in making their books presentable for County competition. Generally speaking, though, their books should be their own work as much as possible; their sense of pride and accomplishment will be that much greater, in direct relationship to the amount of effort which they have put into it.

APPENDIX

GAMES and PARTIES



ELECTRIC BASEBALL

In Quiz Baseball, the Leader usually takes the pitcher position and pitches in the questions to the batter. The easy ones are good for singles if properly answered; harder ones, doubles, triples, and home-runs. There is no base stealing, of course. Base runners move up one base on a single, two on a double, and so on. It is desirable to have an umpire and a scorekeeper. Each team captain arranges his players on the bench in the batting order they will take. A list of questions must be prepared in advance.

The diagram at bottom of page 20 gives the arrangement.

The following list of questions may be used in whole or in part for a quiz ball game. It is intended that one side be asked the questions on the left and the other the questions on the right. These are balanced in such a way that each side is given equal opportunity.

1. Is this project for girls or boys?
   Ans: Both.
2. What is a generator?
   Ans: A generator is a machine which manufactures electricity.
3. What is a kilowatt?
   Ans: 1000 watts.
4. What is a volt? (2)*
   Ans: A measure of electric pressure.
5. What is a hot wire?
   Ans: A live wire connected with the source of supply.

1. May a ten-year-old enroll in this project?
   Ans: Yes.
2. What is a transformer?
   Ans: A transformer is a device for changing voltage.
3. Kilo is a prefix meaning what?
   Ans: 1000.
4. What is a watt? (2)*
   Ans: A small unit of electric power.
5. What is a fuse?
   Ans: A soft piece of wire which melts easily.

Note: Completion questions 6-21, inclusive, should be asked, "How does..... rate as a conductor of electricity?" Answers should be good, fair, poor, or insulator.

6. How does the human body rate as a conductor of electricity?
   Ans: Poor.
7. Iron.....Good
8. Oils.....Insulator
9. Silver.....Good
10. Marble.....Poor
11. Wool.....Insulator
12. Aluminum.....Good
13. Pure Water.....Poor
14. Porcelain.....Insulator
15. Carbon.....Fair
16. Salt Solution.....Fair
17. Slate.....Insulator
18. Paraffin.....Insulator
19. Nichrome.....Fair
20. Flame.....Poor
21. Shellac.....Insulator
22. What is a conductor? (2)*
    Ans: Material which will transmit electric energy with very little resistance.
23. What is a closed circuit? (2)*
    Ans: A continuous path of wires or metal through which electricity flows.
24. Should hot wires be handled with gloves or bare hands?
    Ans: Neither.
25. What is a kilowatt hour? (2)*
    Ans: One kilowatt at work for one hour.

6. How does rubber rate as a conductor of electricity?
   Ans: Insulator.
7. Dry Wood.....Poor
8. Copper.....Good
9. Lead.....Good
10. Moist Earth.....Fair
11. Nickel.....Good
12. Dry Paper.....Insulator
13. Glass.....Insulator
14. Zinc.....Good
15. Silk.....Insulator
16. Brass.....Good
17. Sealing Wax.....Insulator
18. Platinum.....Good
19. Bakelite.....Insulator
20. Dry Air.....Insulator
21. Mica.....Insulator
22. What is an insulator? (2)*
    Ans: Substance that will not readily make a path for the flow of electricity.
23. What is an open circuit? (2)*
    Ans: A circuit through which electric energy no longer flows.
24. Would 110,000 volts be considered high voltage?
    Ans: Yes.
25. What is an electric meter? (2)*
    Ans: A device for measuring the kilowatt hours used.

(*) Good for two bases.

26. How much twisted lamp cord is allowed for a Fire Underwriter's knot?
Ans: About 6 inches.
27. May friction tape be used on home repair jobs if rubber tape is not available?
Ans: No.
28. A penny in a fuse box will make a good fuse out of a poor one?
Ans: No.
29. What is the meaning of D. C. Power?
Ans: Direct Current.
30. What wattage is adequate for a reading light?
Ans: 100 watts and up.
31. What is an ampere? (Home Run).
Ans: A measure of the rate of flow of electricity.
32. How much wattage should be provided for a poultry house? (2)*
Ans: 40 watts to each 100 ft. of floor space.
33. Who is the National Donor for the 4-H Electric Program?
Ans: Westinghouse Educational Foundation.
34. What wattage lamp should be used for a yard light?
Ans: 100-200 watts.
35. Who is the cheapest hired man on your farm?
Ans: Mr. Electricity.

26. Which goes next to the bare wire, friction tape or rubber tape?
Ans: Rubber.
27. Which takes more electricity to operate for an hour, an electric iron or a ¼ horsepower motor?
Ans: Iron.
28. What is a short?
Ans: Connection of two live wires.
29. What is the meaning of A. C. Power?
Ans: Alternating Current.
30. What is a light meter?
Ans: An instrument that measures the intensity of light.
31. What is a circuit? (Home Run)
Ans: A complete path of wires through which electric current can flow from a light motor or appliance.
32. Where should the poultry lights be placed? (2)*
Ans: Over feeders or waterers.
33. Who is the local Power Supplier supporting the 4-H Electric Program?
Ans: (Answer locally)
34. Where should outlets be in the bathroom?
Ans: Each side of mirror.
35. Who is going to make up some of the labor shortages on the farm?
Ans: Mr. Electricity.

(*) Good for two bases.

Cut Up Valentines:

Cut valentines in half. As the members enter, give each one-half of a valentine. One-half of each is given to a boy and the other half to a girl. Each member finds the person who has the other half of his valentine. These two are partners for the next dance, game, or other activity.

The valentines may be cut in many pieces allowing larger groups for teams if they are needed.

Fire on the Mountain:

All the players but one form a double circle, facing inward, each player in the outer circle standing directly behind his partner. The extra player, who is "It", stands in the center of the circle. When he calls "Fire on the mountain! Run, men, Run!" the players in the outside circle begin immediately to jog around, while "It" and the players of the inside circle clap their hands. When "It" stops clapping, he and the inside players hold their hands over their heads as a sign that "It" and the outside players are to try to get in front of an inside player. The one left out becomes "It" and the game proceeds.

Eye Color:

Give each person a slip of paper and have them fold it into four columns. At the head of each column have them write the four colors: BROWN, BLUE, GREEN, GRAY. List as many of the other guests as possible, placing their names under the column with the corresponding color of their eyes.

BROWN	BLUE	GREEN	GRAY
Jane Day Jim Downey Doris Dunn Frank Forst	Linda Page	Pat Kelly	Bill White

Identification:

Each person has a name tag. All form in a single circle. Each person removes his tag, holds it out at arm's length towards the inside of the circle, and drops it. The circle then moves half-way round and stops. Everyone picks up the tag in front of him and proceeds to find the owner—for a chat. Repeat at will.

Variation A—Each player attempts to form the longest "name chain" by hooking elbows with the owner of the name picked up, helping the second owner find the owner (third person) of the second

name tag, etc. At the same time, each owner searches for the person who has his name tag with the hope of attaching that person to the chain.

Variation B—Scatter, in the center of a circle of players, slips of paper either of different colors or marked with different letters. List on a card, secret positive or negative values, for the various colors or letters. Have the circle move and stop frequently for very short intervals, when each player grabs the slips, one at a time, with his left hand and puts each in his right hand. When all slips have been picked up, players commence to bargain with each other in attempting to get a large number of positive slips. After the bargaining period, each player totals his plus or minus scores as the leader gives the values of the slips. Appropriate awards and penalties are not necessary but could be given to the player receiving plus and negative scores.

Toy Shop:

Each man draws from a box the name of some toy shop article. He lets no one see it. The ladies draw duplicate slips from another box. The men act out their toys, each in his turn. As soon as the lady who got his slip recognizes her toy, she claims it and they become partners for the next feature. The toy dog barks, Donald Duck waddles and talks through his nose, the elephant has trouble with his trunk, the crying mama doll puts on her plaintive act, the drum major struts and beats time, the soldier marches with a gun on his shoulder, the camera takes candid shots and the hobbyhorse rocks back and forth. The player who drew football pretends to catch a punt and get away with it or he pantomimes a ball-game. The horn toots, the gun shoots, the electric train "choo-choos" around, the automobile "chug-chugs" and blows its siren, and so it goes until each toy has found its proper owner.

Face to Face:

Single circle formation with partners facing. One odd player stands in the center of the ring and calls, "Face to Face," "Back to Back," "Face to Face," "Back to Back." As soon as he wishes, he may call, "All change," whereupon all players seek new partners, including the center player. The player left without a partner then takes his place in the center and gives the commands. This game can be used with any sized group in any formation of twos.

Odd or Even?

Each player is given a definite number of beans which he holds in his closed palm. He places one or more beans in his other hand, approaches another player, and asks, "Odd or Even?" If the second player guesses correctly, the first player loses a bean. In case the second player guesses incorrectly, the first player wins a bean.

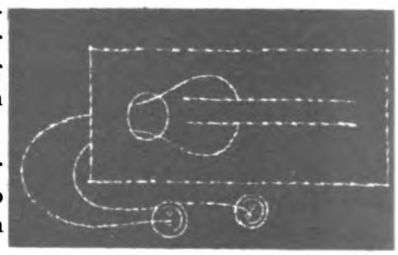
Popularity:

A circle of girls faces to the right; a circle of men outside the circle of girls faces to the left. When the music starts, each circle marches in the direction in which it is facing. At a whistle each girl tries to get a man as a partner. After getting him, she will ask him his name, tell him hers, and then ask him about his good or bad qualities. When the whistle blows again, the circles continue marching.

String and Strap Puzzle:

EQUIPMENT: In a piece of pliable leather of the approximate size illustrated, make two parallel cuts. Then cut a hole slightly wider than the width of the strip formed by the cuts. Thread a string under the strip and through the hole as illustrated. On each end of the string tie buttons larger than the hole in the leather.

PROBLEM: The object is to remove the string from the leather without taking off the buttons or forcing them through the hole on the leather.



SOLUTION: Bend leather double and draw narrow strip through hole. The string can then be removed.

Train:

Leader asks players to form a circle. He then runs up to a girl, faces her, puts his hands on her shoulders and asks, "What's your name?" If the girl replies, "Mary Jones," both she and the Leader repeat, "Mary Jones," five times, the first two times slowly and last three fast, and in same tempo do right, left, right, left, right, left, movements with their feet. The Leader reverses, the girl puts her hands on his shoulders and they run across the circle to another girl. After second girl tells her name, the Leader "passes it back" to first girl. Then three repeat the second girl's name five times in the manner described above. They then reverse and run to get another boy in their train. The group continues to add "cars" to the train in boy-girl-boy-girl order, always reversing before they start for another "car" and always making train whistle sounds as they move. Several players can be delegated to start assembling trains, each trying to get the longest train by the time all available players are made "cars" in some train.

WESTINGHOUSE ELECTRIC CORPORATION

POWER USE DEPARTMENT • 11-L-22 • EAST PITTSBURGH, PA.

B-7597 H-8 LITHO IN U.S.A.