

4-H Ham Radio Communication Proficiency Program A Member's Guide

OVERVIEW

The 4-H Ham Radio Communication Proficiency program helps you learn what you need to know about your 4-H project. Your project leader will assist you in setting and achieving your goals. Through your project, you will learn how the Ham Radio operates, laws and regulations of radio communications, and techniques such as Morse code.

There are many resources to help you learn more about your project:

- The University of California Davis has free resources available online by visiting: <http://anrcatalog.ucdavis.edu/4HYouthDevelopment/>. This site lists a variety of project materials and resources recommended for use in your project.
- The Solano County 4-H Resources and Lending Library at our county 4-H Office includes other books, videos, and reference materials that can be checked out by members and leaders.
- Check to see if there are any local amateur radio groups in your community that conduct educational activities and field days.

There are five levels in the Project Proficiency Program. You may choose how many levels you wish to complete:

- ◆ Level I – “Explorer”, you begin to learn about many different aspects of Ham Radio communication.
- ◆ Level II – “Producer”, you practice and refine the many skills involved in learning about Ham Radio communication.
- ◆ Level III – “Consumer”, you become an experienced radio operator.
- ◆ Level IV – “Leader”, allows you to show your own leadership potential.
- ◆ Level V – “Researcher”, you carry out a demonstration on some aspect of Ham Radio communication, and prepare a paper or portfolio.

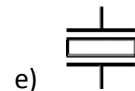
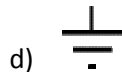
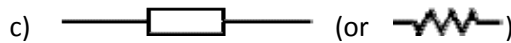
As you work through the proficiency program, your leader will date each skill item as you complete it. When all items in a proficiency level are completed, your leader will sign the Certificate of Achievement.

HAM RADIO COMMUNICATION

Level I - Explorer

Date _____
Completed _____

- _____ 1. Tell who regulates radio communications.
- _____ 2. Name 6 types of radio emissions.
- _____ 3. Name 7 types of radio wave propagation.
- _____ 4. What is needed for 2 way radio communication?
- _____ 5. What safety hazards are associated with radio transmissions?
- _____ 6. State Ohm's law.
- _____ 7. Name six types of antennae.
- _____ 8. What do AM and FM stand for?
- _____ 9. What is broadcasting?
- _____ 10. What is function of a repeater?
- _____ 11. What is a ground connection?
- _____ 12. What are harmonics?
- _____ 13. What does NEC stand for and what is its purpose?
- _____ 14. What function does an antenna serve?
- _____ 15. Explain what bandwidth is.
- _____ 16. Identify the following five schematic symbols:



Member Name: _____ Date: _____

Project Leader's Signature: _____ Date: _____

HAM RADIO COMMUNICATION
Level II - Producer

Date
Completed

- _____ 1. Be able to pass the Technician Class License exam.
- _____ 2. Participate as a volunteer helping local Ham Radio operators.
- _____ 3. Give demonstration on radio communication at club or county level, OR, do a presentation or display at a school, service club or fair.
- _____ 4. Visit a local Ham Radio operator and observe him making two-way communications.

Member Name: _____ Date: _____

Project Leader's Signature: _____ Date: _____

HAM RADIO COMMUNICATION

Level III - Consumer

Date
Completed

- _____ 1. Be able to pass the General Class License exam and Morse Code test.
- _____ 2. Explore some historical aspect of the project and report to your project group.
- _____ 3. Explore career and industry related options and report to your project group.
- _____ 4. Participate in, or organize a community service or citizenship activity related to radio communication.
- _____ 5. Gather resources by starting a reference library related to radio communications.

Member Name: _____ Date: _____

Project Leader's Signature: _____ Date: _____

HAM RADIO COMMUNICATION
Level IV - Leader

Date
Completed

Project: _____

- | | |
|-------|--|
| _____ | 1. Serve as Junior or Teen leader in this project for one year. |
| _____ | 2. Assist younger members in obtaining and installing needed equipment. |
| _____ | 3. Prepare teaching materials for use at project meetings. |
| _____ | 4. Develop and put on a demonstration or judging event or train a junior team for a judging activity. |
| _____ | 5. Speak on a Ham Radio based subject before an organization other than your 4-H group. |
| _____ | 6. Assist at community event regarding Ham Radio Communication. |
| _____ | 7. Teach younger members about learning a specific topic regarding Ham Radio Communication. |
| _____ | 8. Develop your own special project related activity. Chart your progress, plan the activities, analyze successes and problems, and report on your accomplishments to your club. |

Member Name: _____ Date: _____

Project Leader's Signature: _____ Date: _____

HAM RADIO COMMUNICATION
Level V - Researcher

Date
Completed

- _____ 1. Report on the results of a demonstration comparing measurable differences in some aspect of your project.
- _____ 2. Prepare a paper of 300 words or more on a subject related to Ham Radio.
- _____ 3. Prepare a speech or illustrated talk to orally summarize your findings and present at a club, project meeting or other educational event.

Member Name: _____ Date: _____

Project Leader's Signature: _____ Date: _____

Certificate of Achievement

This certifies that

has completed the Ham Radio Communication Proficiency in

Solano County.

Explorer

Producer

Consumer

Leader

Researcher

Date

Date

Date

Date

Date

Initials

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