



# 4-H ROBOTICS



## MODULE 2: **Recruitment and Partnerships**



## ACKNOWLEDGEMENTS

*Authors*

**Denise E. Frebertshauser**, University of Maryland

**Sandra Wever Frerichs**, University of Nebraska

**Cynthia Loope**, University of Nebraska

**Amy L. Rhodes**, University of Maryland

**Ann C. Sherrard**, University of Maryland

**Melissa A. Simulcik**, University of Maryland

**Kendra B. Wells**, University of Maryland

*Author and Project Director*

**Pam Garza**, Garza & Associates

*Design*

**Shawn Newton Design**

*Reviewers*

**Torey Earle**, University of Kentucky

**Janet Edwards**, Washington State University

**Linda Horn**, University of Connecticut

**Bill Pabst**, University of Missouri

*Reviewed and revised June 2014*

**Edward J. Bender**, National 4-H Council

**Sandra Wever Frerichs**, University of Nebraska

**Amy L. Rhodes**, University of Maryland

**Ann C. Sherrard**, University of Maryland

**Kendra B. Wells**, National 4-H Council

Regardless of which module or combination of modules you might be using, there is valuable information in **Getting Started** and we recommend you review it as an important part of any preparation for delivering this training.



# MODULE 2: Recruitment and Partnerships



## OUTCOMES:

*Participants will be able to:*

- List at least 3 main activities of volunteers in 4-H program delivery
- Identify 3 components of a robotics-specific plan for volunteer recruitment and training
- Articulate the first three things they need to accomplish in order to begin a new robotics program

## TIME: 2 HOURS

- **Welcome**  
(5 minutes)
- **Getting Acquainted**  
(10 minutes)
- **The Way 4-H Works**  
(10 minutes)
- **Building Your Team**  
(20 minutes)
- **Reaching Out to Volunteers**  
(20 minutes)
- **Programming for Success**  
(25 minutes)
- **4-H Robotics Program  
Action Plan**  
(30 minutes)

## OVERVIEW:

### **Introduction to the Experience** (Step 1–2):

Participants are welcomed and share their background with, or questions about, the 4-H program.

### **4-H and the Role of Volunteers** (Steps 3–4):

Participants will review the structure of 4-H and consider the functions of 4-H volunteers. Using sample position descriptions, participants will identify a team of volunteers that could support their program.

### **Reaching Out to Volunteers** (Step 5):

Participants will practice speaking to potential volunteers through a role playing activity.

### **Intentional Planning** (Steps 6–7):

Participants will discuss key considerations in the program planning process. Participants will complete an Action Plan for implementing a new 4-H Robotics program in their community.



### MATERIALS:

- Tables and chairs
- Flipchart/dry erase board
- Markers
- Computer(s) with Internet connection
- Available photocopier
- Flipchart paper or dry erase board
- Note cards
- Pens/pencils
- Module 2: Recruitment and Partnerships (PowerPoint Presentation)

For additional resources visit  
[www.4-H.org/robotics](http://www.4-H.org/robotics)

### HANDOUTS:

Prepare one for each participant  
unless otherwise noted

- Volunteer Team Activity Handout (1 page) (need several for each group)
- Sources for Volunteer Recruitment – Science Rich Volunteers Handout (2 pages)
- Volunteer Roles (1 page)
- 4-H Robotics Program Action Plan Worksheet (4 pages)
- Building Your 4-H Robotics Program Action Plan Questionnaire (3 pages)

### PREPARATIONS:

**Before the Training Begins:** If your training includes volunteers or teen leaders, Step 3 suggests that you share a visual aid (preferably a handout) with the names and contact information of county and state leaders in the areas where your training participants will be working. This will help new volunteers and teen leaders to understand the structure of the 4-H program, as well as providing them with a way to contact their program leaders and specialists in the future.

**Before the Activity Begins:** Step 4 requires you to prepare sample position descriptions for volunteers to work with in an activity. Read over the steps of the activity, and provide an assortment of volunteer position descriptions (one per sheet/piece of paper— it doesn't need not be a full sheet for each description.) The Volunteer Roles Handout on page 2.21 provides some example job descriptions for needed volunteers. You may want to add additional descriptions that are specific to your program.

**Before the Activity Begins:** If your training participants have completed the Pre-Training Assessment Survey, you may wish to provide information on topics, platforms, or kits in which they indicated interest or need for more information. For example, if a county team responded that they are planning to offer the LEGO® WeDo™ project in the first year, prepare a packet of information, distributed at the beginning of the module, so that they can refer to throughout training and planning.





## TRAINER NOTES:

*If you are presenting this training directly after another module, feel free to adjust the text of Step 1 as needed to suit your situation.*



### STEP 1: Welcome (5 minutes)

Welcome to Module 2 of the *4-H Robotics Year-Round Training Guide*. We'll be learning about the resources you need to begin a 4-H Robotics Club in your area. In this training, you will generate a plan to identify and engage the people, equipment, facilities and support you need to start a program.

My name is \_\_\_\_\_ and I'll be your guide in this module.

***All facilitators can introduce themselves at this time.***

We want you to enjoy your time with us and want you to feel comfortable doing so. Please feel free to go to the restroom or move around the room as needed. While we dive into the world of technology, we ask that you silence yours by turning off electronic devices for the length of our training time.

***Point out any other useful information such as the location of restrooms and water at this time.***





## STEP 2: Getting Acquainted (10 minutes)

**TRAINER TIP:** Include STEP 2 and STEP 3 if any of your participants are 4-H Volunteers or teen leaders. If your audience includes only 4-H faculty/staff, proceed to STEP 4.

- How many of you have a background in 4-H?
- Can any of you tell me just one thing about the system and structure of 4-H?
- What is the role of volunteers in the 4-H program?
- What do you think this information has to do with our training today?

## STEP 3: ACTIVITY The Way 4-H Works (10 minutes)


**TRAINER TIP:** If your audience includes individuals who are not familiar with 4-H, refer to the 4-H 101 Curriculum for further resources to train new volunteers. Access the curriculum at this site: <http://www.4-hmilitarypartnerships.org/>

If your training includes volunteers or teen leaders, show a visual aid or provide a handout with contact information for county and state 4-H leaders in the areas where your participants will be presenting programs.

The 4-H program is brought to youth through the efforts of 3,500 professional staff and 538,000 volunteers (<http://www.4-h.org/about/4-h-history/>). These individuals are organized chiefly by state, with each state usually led by a state 4-H Leader at the university level. Most state 4-H offices house specialists in the various program areas who offer guidance to all state activities within their areas of specialization. You can find your local 4-H at a tab on the top of the screen.

MODULE 2: Recruitment and Partnerships 4-H ROBOTICS

### Getting Acquainted



- How many of you have a background in 4-H?
- Can any of you tell me something about the system and structure of 4-H?

MODULE 2: Recruitment and Partnerships 4-H ROBOTICS

### Getting Acquainted

- What is the role of volunteers in the 4-H program?
- What do you think that information has to do with our training today?



MODULE 2: Recruitment and Partnerships 4-H ROBOTICS

### The Way 4-H Works

- Professional faculty organized by state, associated with land-grant university
- Faculty and staff lead local programs
- Volunteers link program to youth and families in the community





## MODULE 2: Recruitment and Partnerships



Local 4-H programs within the state may be structured differently across the nation; in many states 4-H program leadership includes the county level, with 4-H faculty supervising individual counties or groupings of neighboring counties. You have probably already developed a relationship with your county's 4-H professional, but you may also want to learn about your region and state leadership and specialists. This information is usually available on your state 4-H website.

As a 4-H volunteer, you have a special place in the 4-H community. You are the critical link between the study, research, curriculum and guidance provided by the 4-H program at every level, and the youth in your club.

Through your work, youth will have access to a world of learning and enrichment. Your caring leadership is the key component in fulfilling the mission of youth empowerment.

**TRAINER TIP:** Before the activity begins: many states have volunteer position descriptions available on the Internet. Look up a variety of these descriptions and prepare several printed sets. On a computer or photocopier, “black out” any identifying titles and just leave the actual position description.

For this activity, participants should be in their “working groups”—the teams they will actually be working with back home. If participants are attending as individuals rather than teams, they can work together and share ideas. Depending on the results of the Pre-Training Assessment, you may wish to modify this step to allow working groups to use the position descriptions they have already developed.





## STEP 4: ACTIVITY

### Building Your Team (30 minutes)

As you plan your 4-H Robotics program, you will need volunteers to assist you in reaching the outcomes you have identified. You will also want to have a clear picture of the role of each volunteer. This “picture” could be called a Volunteer “position description” and this activity will help you start to develop descriptions for each position within your program.

You will also begin to identify the expectations you have for each volunteer role and plan how you can find volunteers to fulfill those roles.

***Lead participants to consider and discuss the importance of volunteer leaders in all 4-H programming.***

***Ask any of the following questions, or add your own:***

- What is the general role of a volunteer within the 4-H program?
- Do you think volunteers play an important part in 4-H program delivery? How or why do they do this?
- What is the role of teen leaders in 4-H programming?
- What specific roles can volunteers play in robotics programs?
- What skills or knowledge are you looking for to assist with a new robotics program in your area? What is the general role of a volunteer within the 4-H program?
- Do you think volunteers play an important part in 4-H program delivery? How or why do they do this?
- What is the role of teen leaders in 4-H programming?
- What specific roles can volunteers play in robotics programs?
- What skills or knowledge are you looking for to assist with a new robotics program in your area?



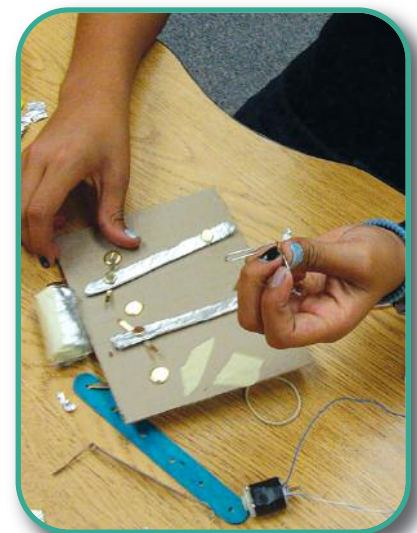
MODULE 2: Recruitment and Partnerships

4-H ROBOTICS

### Building Your Team

*Volunteers are essential!*

- Develop a clear volunteer description.
- Identify expectations for each volunteer role.
- Develop a volunteer recruitment plan.







In this activity, you'll have the chance to build your own “dream team” of volunteers.

***Direct the groups to take 10 minutes to scan through the descriptions and choose the ones they think their new programs will need in order to conduct year-round robotics programs. The description can apply to volunteers they already have—or volunteers they will need to recruit. If groups are using position descriptions they already have, ask them to record each description on a note card.***

You do not need to focus on titles at this point and the titles have been removed from the descriptions. Instead, focus on finding the range of skills, responsibilities and activities you will need to build a successful team for your club.

**TRAINER TIP:** A 4-H Robotics club can certainly benefit from the leadership of any caring and competent volunteer. It is not essential to have any volunteers with engineering or robotics knowledge—but recruiting “science rich” volunteers can strengthen your program and enrich the experience you provide for youth.

Since robotics and engineering are fairly specialized areas, participants may need to target their volunteer recruitment in specific ways to build a volunteer team that can fully support a robotics program.

As you conduct this activity, guide participants to think about where they can find science-rich volunteers.

***Give each working group an opportunity to “shop” through the position descriptions and select as many as they want. Each description represents a volunteer they have or will recruit.***

***Distribute several “Team Jersey” Handouts to each working group before continuing. When time is up, bring the group back together.***





## MODULE 2: Recruitment and Partnerships



The position descriptions you now have should encompass all of the roles and responsibilities you anticipate needing to fulfill. It's up to you to decide who will fulfill each requirement and what you will title that position.

As a group, spend the next few minutes coming to consensus about what roles are needed and who will be responsible for each role. Remember, you can assign these descriptors to a volunteer you already have, or to one you plan to recruit.

Think about each set of responsibilities as a description for a player on your volunteer “dream team.” As you work, transfer the descriptions to a “team jersey” — one for each member of your team. In the space at the top, you can write the name of the person who will fulfill those roles, or the title you will assign that person—such as “organizational leader” or “activity leader.”

***Allow the groups 10 minutes to choose which descriptions they will use, and then to transfer the descriptions to the jerseys. When the time limit is reached, bring the group back together.***

You are probably beginning to develop an idea of which roles you have filled and which roles will call for a new volunteer to join your team. For each volunteer that you need to recruit, imagine some of the places you could find a person with those skills.

***Lead groups in brainstorming about recruiting new volunteers. To aid participants in visualizing and processing, consider writing answers and keywords on flipchart or a whiteboard.***





***Ask any of the following questions, or add your own:***

- What specific roles are we looking to fill?
- What skills or attributes are we looking for in new volunteers?
- Who in our community might have these skills?
- Do we know this person or do we need to reach out to someone new?
- How can we meet a person with these skills?
- How can we encourage this person to become a 4-H volunteer?

***When complete, have each group present their team and facilitate the discussion and sharing of ideas between groups. Assist groups in identifying any areas that they may have overlooked.***



***Ask any of the following questions to assist groups.***

- What did you notice as the groups presented their teams?
- Were other teams similar to yours? How so?
- What differences did you see between your team and others?
- What did you learn (or what ideas did you get) while listening to the other teams?
- Think about going home to continue recruiting volunteers. What concerns do you still have?
- How can we work together to address those concerns?

As you continue to plan for your new program, keep these position descriptions in mind. You may even want to save them with your program paperwork, to be updated or changed as needed. By the time you start enrolling youth in your club, make it your goal to have a name for each jersey on your team—and a volunteer to fulfill that position description.



## STEP 5: **ACTIVITY** **Reaching Out to Volunteers** (20 minutes)

At this time, you are beginning to envision the individuals and skill sets that will be needed to support your program. You may also be thinking about people you know who could fill these roles. In the next activity, we're going to think about not only where you can find individuals with the skills you need, but also how you can encourage these individuals to join your team.

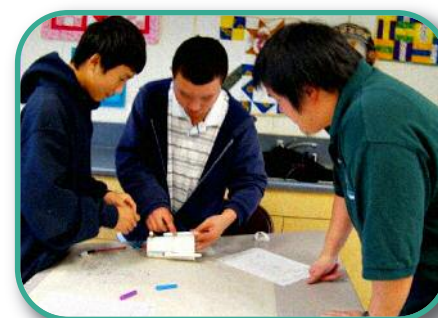


***Divide all participants into two groups. Assign each person in the first group a position description that was created in STEP 3. The description should be for a prospective volunteer, not one who is already on board. Be sure that the creator of the description is written on the page, as you will be trading descriptions between groups.***

***Each person who receives a position description will role-play as a volunteer who has the skills and experience listed on the description. Each person in the second group will role-play themselves.***

Several of you have received position descriptions. Those descriptions are the resume of the character you are going to play. Those of you who do not have position descriptions will be “playing” yourselves—4-H Educators (or volunteers) who are looking for new volunteers for a robotics program. For the next ten minutes, you will mingle and converse. 4-H Educators, you will be looking for connections to be made with volunteers who meet your needs. Potential volunteers, remember that you don't necessarily know anything about 4-H, so feel free to ask questions!

***Allow the group to interact for no more than 10 minutes. Then have the group switch places—those who were 4-H Educators are now potential volunteers (give them position descriptions to describe their character) and those who were role-playing volunteers will now be themselves. Give the new groups no more than 10 minutes to interact.***





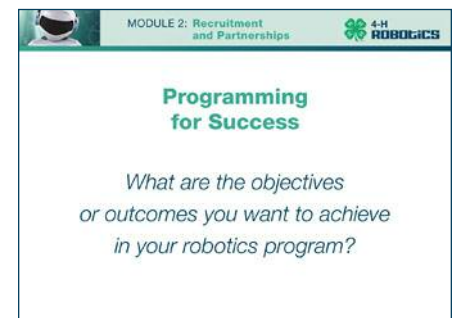


**Guide participants in processing this experience. Ask any of the following questions, or add your own:**

- Were you able to find a volunteer for your program?
- Was it easy to ask volunteers to join your program? In what ways was it challenging?
- Did volunteers ask any surprising questions?
- Keeping this activity in mind, how do you plan to make contact with potential volunteers?
- What will you say to them?

## **STEP 6: Programming for Success (30 minutes)**

***If you are presenting this module directly after Module 1, ask participants to refer to the Robotics Program Entry Points Comparison Chart during this discussion. If not, make photocopies of the chart and distribute them at this time.***



***Participants will also need the Building Your 4-H Robotics Plan Handout. They can follow along with these points and make notes. You can also consider asking participants to read each point out loud, ask questions and add their thoughts as you review together.***

Volunteers are one significant part of the preparation for starting a 4-H Robotics program, but there are other resources you'll need to address in your planning. Let's begin by thinking about the end. What are the objectives or outcomes you want to achieve in your robotics program? Let's brainstorm some ideas and record them on the flip chart.

***Have another facilitator record ideas from the group on the flip chart, so you can focus on engaging all the participants in the discussion. If you do not have multiple facilitators for your training, ask one of the participants to volunteer to be the secretary for the group.***

Now select one to three outcomes you will focus on in your program. Remember that every journey needs to go somewhere, but you can't go everywhere at once. Start by recording your outcomes at the beginning of your action plan.



## MODULE 2: Recruitment and Partnerships



***Pass out a 4-H Robotics Program Action Plan and Building Your Robotics Plan Handout to each participant. After the discussion below, give participants about 10 minutes to work on their action plans. At this point, they may not be able to fill in all the details. Remind them that they will continue to work on their action plans through the first four training modules.***

MODULE 2: Recruitment and Partnerships

### What Other Resources Will You Need?

Areas to consider may include:

- Curriculum
- Equipment
- Facility
- Funding
- Competition

Before you begin the *4-H Robotics Program Action Plan* at the end of this module, let's review the resources you may need. Think about the strengths your program already has, and paying special attention to areas where you might have a 'gap' in available resources. Areas to consider may include:

- 1. Curriculum:** may include a published curriculum such as *4-H Robotics: Engineering for Today and Tomorrow* ([www.4-H.org/robotics](http://www.4-H.org/robotics)) or a set of activities developed by an experienced volunteer. Decide what, if any, robotics curriculum you will use in your program.



### ***Things to consider:***

- Will it be a series of programs?
- How is the curriculum delivered? Is it a book, DVD, online? Will it use computers?
- How much does it cost?

- 2. Equipment:** may include laptop computers, robotics kits, safety equipment, tools, tables for activities, program supplies or robotics components. If you've made a decision that a curriculum and competition will be part of your program, then you may know what equipment you will need. If not, you may want to visit websites for the curriculum and competitions you are considering in order to see what the requirements are.





***Things to consider:***

- What resources do you have to assist you in acquiring the needed equipment?
- Can you accept donations of any items?
- Equipment is expensive and may be cost-prohibitive to repair or replace.

Successful programs include a plan for maintaining accountability for equipment and guidelines to prevent accidental damage to delicate robotic and electronic components.

- Who will develop these guidelines and maintain them?
- What other guidelines will you include?

- 3. Facility:** may include a location for club meetings; a location for robotics construction and activities; and storage for robots, tools and equipment. You may be able to have all your program activities at one location or your program may move between several locations.



***Things to consider:***

- Your equipment is not only expensive to replace—it is valuable to your program. Without it, you cannot conduct planned activities.
- Having secure storage that is accessible only by trusted, responsible individuals is essential to keeping your equipment safe and ready for use.
- Where and how will you store equipment?
- Is secure storage available (for example, a locking cabinet or closet)?
- Who will have access to storage?
- Where will keys be kept?



4. **Funding:** may include donations, grants, sponsorship, cost recovery, or other monetary or in-kind support. It may come from a variety of sources within and outside of your local community. Successful robotics programs often start with the less expensive platforms/kits, but have long-range plans to develop community support for the future, when more expensive equipment may be needed.

**Things to consider:**

- What resources do you already have?
- What resources will you need to develop?
- Think about the costs involved after the initial purchase of a robotics kit or equipment—computer maintenance, upgrades, or replacement parts.
- Don't forget to consider travel to robotics competitions or enrichment activities.



5. **Competition** may take place at the local level, within your state or internationally. Robotics competitions such as *FIRST*® can provide unique opportunities for youth development, but not everyone wants to be part of a competition. Decide what competitions, if any, youth will be invited to participate in.

**Things to consider:**

- What is the competition season?
- What equipment is needed to participate?
- How much does it cost to be part of the competition?
- How many youth can be on a team?
- Can youth enter their robotics project at the county or state fair?
- What are the fair requirements?
- What are the registration deadlines?



***If your training room includes computers with Internet access, guide participants to visit the websites listed on the chart for any additional information about the costs and resources needed for each platform. As participants gather necessary information, engage them in Step 7—the 4-H Robotics Program Action Plan process. If possible, provide Internet access during Step P 7 in case more information is needed.***





## STEP 7: **ACTIVITY** **4-H Robotics Program Action Plan** (30 minutes)

**TRAINER TIP:** One month after Module 2, participants should check in with the facilitator to review progress and ask any questions they may have at that time. Be sure to make arrangements with your participants so that they can contact you after your training.

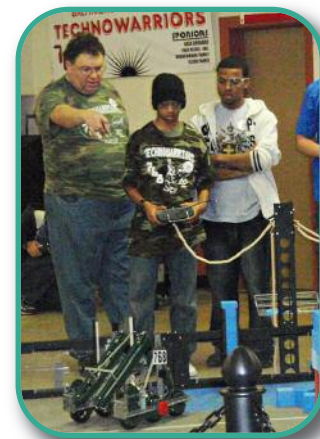


We've discussed the four main components you need to launch your new program: volunteers, equipment, facilities, and funding. I hope that this training has helped you start thinking about where and how to access these components in your local area. Now we're going to take your planning one step further by completing the *4-H Robotics Program Action Plan*.

Before you return home, you need to start assessing and/or planning. But before we do that, I want to check in and make sure you are ready to work on your Action Plan.

- What areas do you have questions about?
- What other information can I help you access?
- Is there any other help I can provide for you at this time?

We are going to take the next 20 minutes, for you to work on the *4-H Robotics Program Action Plan Worksheet*. If you continue training through the remaining modules, you will see this material again in the form of two "Action Plan Updates" that will help you continue to plan for a successful program.



When I call you back together in 20 minutes, you will share your progress on your *4-H Robotics Program Action Plan* and you will have an opportunity to exchange information and share suggestions as a group.

***Give participants at least 20 minutes to work on the 4-H Robotics Program Action Plan. Circulate through the groups and offer assistance and suggestions. If possible, have computers with Internet access available, in case they need to access websites for their county, region, or state program or gather more information on robotics platforms/kits.***



## MODULE 2: Recruitment and Partnerships



***After 20 minutes, gather participants for a report and review of the 4-H Robotics Program Action Plans. Explain your plan for a one month check-in and if possible, make a photocopy of each Action Plan for your files. Original plans should return home with the 4-H Educator or lead volunteer from each area.***

MODULE 2: Recruitment and Partnerships 4-H ROBOTICS

### 4-H Robotics Program Action Plan

- How are you feeling about your 4-H Robotics Program Action Plan?
- What steps are you looking forward to completing?
- What steps are causing concern for you?
- Any new ideas or questions ?

***After participants have shared their Action Plans, ask any of the following questions or add your own:***

- How do you feel about your 4-H Robotics Program Action Plan?
- What steps are you looking forward to completing?
- Are any of the steps causing you concern? How can we address them?
- What new ideas or questions do you have as a result of this activity?
- How do you think the 4-H Robotics Program Action Plan will help you prepare your new program?

## Reflection

**TRAINER TIP:** Lead participants in a brief reflection on the training they have just experienced.

***Ask any of the following questions or add your own:***

- What parts of this training were surprising for you?
- What parts of the training were challenging?  
Which were easy?
- What other information do you still need?
- Which activities require additional volunteer assistance?
- What “next steps” will you make as a result of this training?
- In what ways do you feel better prepared to recruit volunteers and develop partnerships?

MODULE 2: Recruitment and Partnerships 4-H ROBOTICS

### Closing and Questions



- Importance of establishing volunteer teams and community partnerships
- Importance of identifying roles and responsibilities for volunteers
- Key resources needed to develop a robotics program
- Planning is essential: 4-H Robotics Program Action Plan Worksheet



## MODULE 2: Recruitment and Partnerships



### Transition

***If you are presenting another module directly after Module 2, adapt the following to fit your training schedule.***

You have just completed Module 2 of the nine modules of the *4-H Robotics Year-Round Training Guide* for 4-H faculty and volunteers interested in launching robotics club programs. This module covered the basics of building volunteer teams and community partnerships to provide the four main resources needed to develop a robotics program: volunteers, equipment, facilities, and funding.

We talked about the roles of volunteers in 4-H programs, developed position descriptions for volunteers for your programs, and practiced making contact with potential volunteers—especially those with backgrounds in science and engineering. We also reviewed a great deal of planning suggestions. You are also returning home with your area *4-H Robotics Program Action Plan* to guide you in the next round of preparations.

Does anyone have any questions or anything to add?

***Answer any questions and discuss any ideas or concerns that are shared.***

If you choose to develop a *4-H Robotics Program* in your area, there are eight other training modules available to you.

Module 1: Comprehensive Robotics Overview

Module 3: Community Resources Cultivation

Module 4: LEGO® WeDo™ Introduction

Module 5: Using Technology to Deliver a Robotics Program (*Virtual Robotics*)

Module 6: Experiencing Engineering Design (*Junk Yard Robotics*)

Module 7: An Experiential Model of Building Robots (*Robotics Platform*)

Module 8: Scientific Inquiry and Programming Robots (*Exploring Robotics Platforms*)

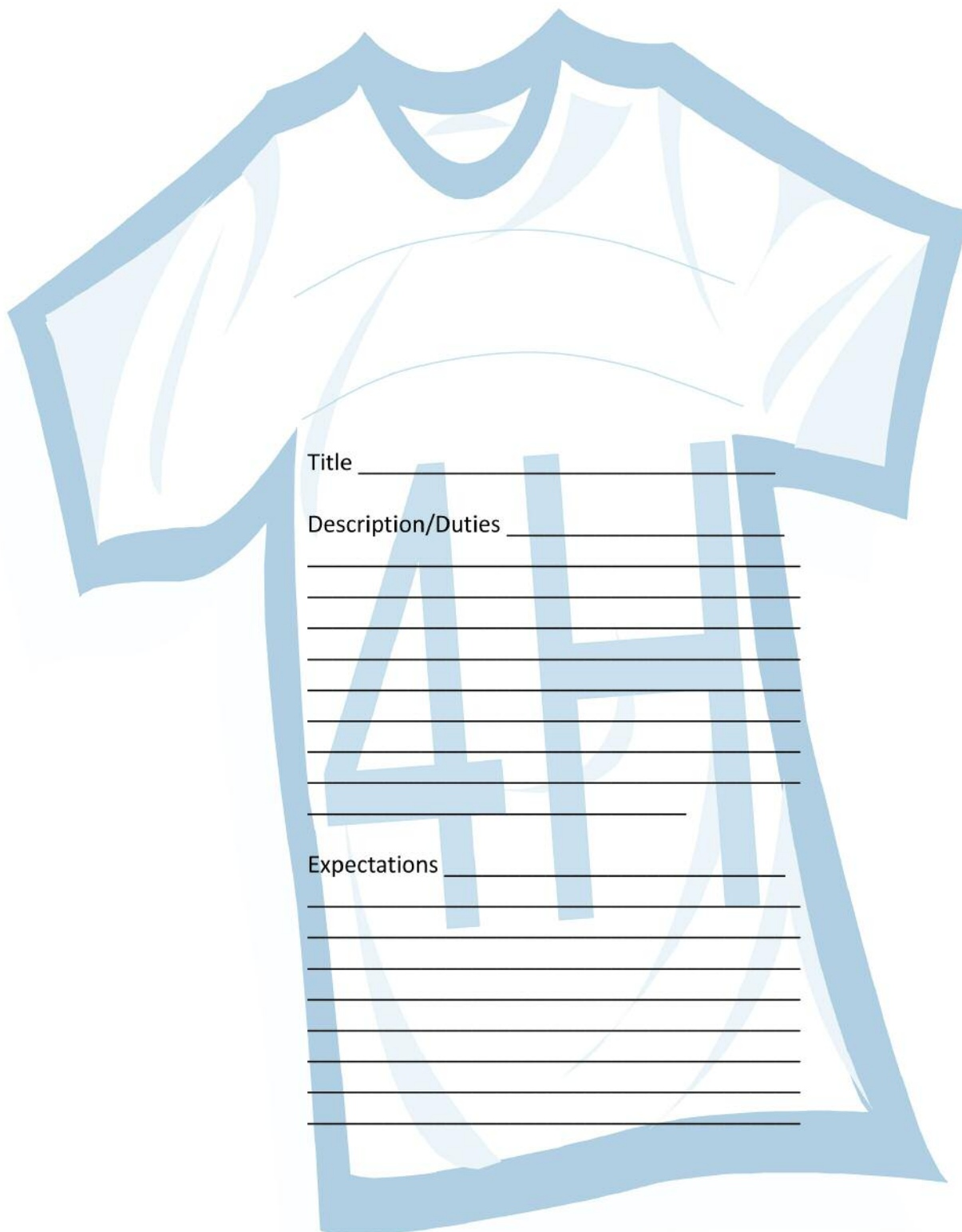
Module 9: Expansion, Enrichment, Endurance: Your Year-Round Robotics Program



***Provide participants with information about upcoming training opportunities and answer any remaining questions. This concludes Module 2: Recruitment and Partnerships.***



# Volunteer Team Activity Handout

A large, light blue outline of a t-shirt with a white interior, serving as a background for the form. The form is positioned on the right side of the t-shirt's chest area.

Title \_\_\_\_\_

Description/Duties \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Expectations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





## Sources for Volunteer Recruitment – Science Rich Volunteers

**Current volunteers** – You may already have volunteers working with your program who have the interest or expertise to assist with a robotics program. If you have a volunteer council or a county newsletter, start letting your current volunteers know what programs you are planning. Invite them to contact you or come to an interest meeting to learn more about volunteering with your robotics program. Volunteers with all types of backgrounds will be useful in getting your new program up and running.

**Educators** – Many times, 4-H projects work hand-in-hand with in-school curriculum and Science, Engineering and Technology are no exception. You may wish to contact local education professionals to find out if any teachers, professors, or high school/college age students are interested in working with your program. Be clear about the time commitment required by your volunteer training and the delivery method you intend to use. There may be a school-sponsored LEGO® League, FRC® or FTC® team you can work with in some capacity as you begin your new program.

**Students** – If a high school, community college, college or university in your area has any type of engineering or robotics program or club, you may find potential volunteers there. While these individuals may not be well versed in youth development, they are likely very knowledgeable about their fields of study. Invite them to share their interest and enthusiasm with youth in your program as 4-H volunteers.

**Private sector/business** – Identify local businesses that employ engineers or work with technology, electronics or robotics. Many of these organizations are fully aware of the need to expose youth to science and technology and may share your interest in educating the next generation of scientists and engineers. Identify businesses and individuals who may be willing to work with you and think ahead. If your robotics program is wildly successful and your club goes on to field a an FTC® or FRC® team, it will be very helpful to already have relationships with local machine shops, engineers, electricians and other experts involved in robotics.

**Military** – If you are located near any type of military installation, you may be able to contact military engineers who are interested and experienced in robotics. As above, these individuals are likely to recognize the importance of introducing youth to Science, Technology, Engineering and Mathematics (STEM) and robotics programs and may have a lot of real-world experience and practical knowledge to contribute to your program. If you are near an Army or Air Force installation, there may already be an on-post/on-base 4-H Club that you can partner with.



## Sources for Volunteer Recruitment – Science Rich Volunteers (continued)

**Interested individuals** – Hopefully you are already maintaining an outreach and volunteer program in your area. If not, there is no time like the present to begin! Keep the public informed of the work your program does through contact with local media, participation in community events and by working with partners through out your community. Let your local network know that you're looking for volunteers and what kinds of help you need. Consider holding an interest meeting where individuals can come learn more about your program and how they can be involved.

**Parents of 4-H members** – If a 4-H member is interested in robotics, you may want to contact their parents, guardians, or other family members to find out if they'd be interested in assisting you in presenting programs. There may be potential volunteers just waiting for an invitation to join in your efforts.

**4-H alumni** – What better resource for a 4-H program than an individual who benefited from the program themselves? If you know of 4-H alumni in your area, make sure that your invitation to volunteer reaches them as well. While they may not be experts in robotics, the idea that 4-H can be a powerful force in a young person's life is certainly not foreign to this group. Since graduating from the program, these individuals may have branched out into any further education or career choices that have given them skills, knowledge, and experience that can be valuable assets to you.



# Volunteer Roles

*Listed below are some possible titles and job descriptors for volunteers in your club.  
Using what you have learned in Module 2, what other position descriptions will you develop?*

### Club Leader:

- Develop caring relationships with members
- Be an advisor, guide and mentor
- Create a safe environment for members
- Provide opportunities for youth to make decisions
- Participate in volunteer training

### Programming Mentor:

- Be an advisor, guide and mentor
- Provide expertise in programming robots
- Encourage youth to create their own solutions
- Participate in volunteer training

### Robotics Project Manager:

- Develop caring relationships with members
- Encourage members in planning a yearly activity calendar
- Help youth find resources to support their project
- Participate in volunteer training

### Club Communications Manager:

- Encourage participation of all youth and their families
- Provide club management and communication
- Complete forms and other paperwork required of the club
- Participate in volunteer training

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Title of position

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Title of position

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# 4-H Robotics Program Action Plan Worksheet

Today's Date: \_\_\_\_\_

Team Member Names: \_\_\_\_\_

Program City/County, Region, State: \_\_\_\_\_

State/Region Advisor Name: \_\_\_\_\_

*For each question, write your ideas or possibilities you want to research. Include the name of the person responsible for researching that issue and reporting*

Three outcomes that our program will focus on are:

Outcomes

Which National 4-H Curriculum guide will we use? What other platforms/kits might we use?

Choosing a Curriculum or Platform

How many youth do we hope to reach in the first six months?

If we choose to offer a program that utilizes robotics kits, how many kits will we need to purchase?

How many youth per kit will we accommodate?

Do we have access to computers/laptops if we need them? How many?

How many youth per computer will we be able to accommodate?

What funds do we currently have available? What is our budget?

Funding

What are our expenses for start-up?

Can we identify funders and partners? How will we obtain funds or support from them?



**4-H Robotics Program Action Plan Worksheet** (continued)

Funding

Based on the above information, what are our projected expenses?

Where will our robotics programs be conducted? (In your office, camp, after-school setting, etc.)

Facility/Location

What facilities do we have available that fit the needs of our program and the number of youth we will enroll?

Where will we store our equipment? How will we maintain security and accountability?

What type and size of storage area is needed?

Preparation

Each platform will come with software that will need to be loaded onto computers. Who will do this for our program?  
When will this be accomplished?

Are there any additional items that we need to purchase?





## 4-H Robotics Program Action Plan Worksheet (continued)

How will we organize equipment and be accountable for it?

What specific rules need to be established before groups are allowed to use equipment and facility?  
How will these rules be shared with new volunteers and members?

Who is responsible for equipment? (Think about who else might use the equipment—another club in our county, a 4-H summer camp, etc.) How will we maintain accountability?

Guidelines and Accountability



### 4-H Robotics Program Action Plan Update (continued)

Promotion

How will we promote our robotics program?

How will we recruit youth participants and adult volunteers? Where can we hold demonstrations to promote interest?

Other Questions

Any other questions or concerns members of our team have at this time:

Our team will meet again on \_\_\_\_\_ to review our progress on researching these issues  
DATE  
 and making arrangements for our new club.

Our team's next training event will be \_\_\_\_\_  
NAME OF TRAINING  
 which will be held at \_\_\_\_\_ on \_\_\_\_\_  
LOCATION DATE

Until that time, we will keep in touch by \_\_\_\_\_  
CONTACT STRATEGY (EG, EMAIL)

On \_\_\_\_\_ we will check in with \_\_\_\_\_ and share the progress we have made.  
DATE-ONE MONTH FROM NOW TRAIN-THE-TRAINER FACILITATOR



# Building Your 4-H Robotics Program Action Plan Questionnaire

*Questions to consider before starting your robotics program.*

## **Choosing a Platform** *(Do your research first!)*

- What platform is right for your program? *(all platforms will require access to a computer)*
- How many youth do you plan on serving?
- Dependent on the number of youth, how many kits will you need to purchase?
- How many youth per kit will you accommodate?
- Do you have access to computers/laptops?
- How many youth per computer will you be able to accommodate?

## **What can you afford?**

- What is your budget?
- What are your expenses for start-up?
- Can you identify funders and partners?
- How will you obtain funds from them?
- What are your projected expenses for future goals?

## **Where will your robotics programs be conducted?**

- Each location your program is conducted in needs to make sure you can accommodate to the needs of the program. Specific needs will depend on number of youth participating. Other platforms may require more space. Minimum needs to conduct a LEGO® WeDo™ or LEGO® MINDSTORMS® Robotics Program:
  - Where will your programs be conducted? *(extension office, camp, afterschool setting)*
  - How much space is needed? *(groups may need floor and/or table space to build/practice maneuvering their robot around the room)*
  - What are your facility needs? *(tables, chairs, electrical outlets)*



## Building Your 4-H Robotics Program Action Plan Questionnaire (continued)

### What do you do with the equipment?

- Do you have a place where equipment can be stored?
  - What type of storage is needed? (*cabinet, storage closet, shelf?*)
  - Size? (*dependent on the quantity and type of platform*)
  - Can it be accessed by volunteers/staff easily?
  - How will it be accessed by volunteers/staff?
  - Who will be the authorized people capable of accessing the materials?

### Each platform will come with software that will need to be loaded onto computers. Who will do this for your program? Are there any additional items that need to be purchased?

- Resource books?
- Additional parts?
- Storage containers for parts or kits?

### How will you organize and be accountable for equipment?

- Create an inventory of all equipment, including software; include serial numbers where appropriate (*laptops*).
- Number and label each kit and laptop with proper contact information as needed.
- LEGO® WeDo™ Kits cater to a younger audience that is more likely to misplace parts, consider a method to keeping parts in kits.
  - *Suggestion:* place parts in baggies by color, place number of specific color parts on the outside of bag, after each group uses kits, have them count the number of pieces that should be in each bag, if a part is missing it will help in quickly identifying what is missing by color.
  - This concept also applies for extra parts that may be found.
  - Many times parts are simply on the floor or in the kit their neighbor may have been using.
  - Clean up is essential to keeping your parts in order!
- Develop a system to keep track of kits and parts.
  - Develop a check-in check-out system.
  - Give groups a parts list to keep track of parts.



## Building Your 4-H Robotics Program Action Plan Questionnaire (continued)

### How will you ensure that all users maintain each piece of equipment?

- What specific rules need to be established before groups are allowed to use equipment/facility?
- What specific rules need to be developed for each platform?
- What specific rules need to be developed for the specific group using the kits?
  - Suggest club to develop rules that can be added to the ones you establish
  - Examples:
    - Wash hands before using equipment.
    - Do not eat or drink around equipment and materials.
    - Do not borrow your neighbor's parts.
    - If you are missing parts, ask for help.
    - Do not put pieces in your mouth!
    - Treat the robot kits with care and respect—they will be used for years to come!
    - Have FUN!

### Who is your audience?

- Who will be using your equipment? (*clubs, after-school, in-school, camps, etc.*)
- Where will the group be conducting the program?
- Who is responsible for equipment?

### Promotion and Recruitment

- How will you promote your robotics program?
- How will you recruit both youth participants and adult volunteers?
- Where could you hold demonstrations to promote interest?
  - Open House
  - PTA
  - Workshops
  - Fairs