Bicycle Adventures

Helper's Guide

Learn-by-doing Activities for Bicycle Groups
Congratulations on volunteering to be a 4-H Bicycle Project Helper! You have a special opportunity to assist young cyclists. As a helper and mentor, you are in a key position to support the growth and development of youth. This curriculum provides opportunities for you and youth to develop caring relationships as well as a lifelong appreciation for cycling.

**Bicycle Adventure Series**

As a result of youth actively participating in this series, they will:

- Demonstrate safe cycling skills and equipment
- Repair and maintain a bicycle
- Plan and participate in cycling activities and events
- Practice the life skills of decision making, personal safety, leading self and others, planning and organizing and communications
- Have fun cycling

The youth activity guides, Bicycle 1 and Bicycle 2, are designed for grades 3–5 and 6–8 respectively. Each should be completed in succession and can be completed on an individual basis. You’ll find an achievement program in each guide to encourage youth to learn more about bicycles and bicycling while developing important life skills.

**Bicycle 1 – Bicycling For Fun** BU-08334

Youth discover the joy of riding a bicycle, why helmets are worn, how to check tires, brakes and chains; and ways to control a bike when starting and stopping.

**Bicycle 2 – Wheels In Motion** BU-08335

Youth gather information to purchase a bike; recognize different types of tires and valves; adjust seats, handle bars and brakes; put chains on; shift gears; make a quick stop; dodge an obstacle; read maps; and plan bike routes.

**Bicycle Helper’s Guide** BU-08336

The activities in the Helper’s Guide are designed for group learning and may be used at any time during the series. Groups will organize group rides, practice bicycle skills and play fun bicycle games.

**Don’t Get Stuck: Fix It DVD** DV-08399

**Don’t Get Stuck: Fix It Video** VH-07507

Youth may also want their own copy of the video or DVD Don’t Get Stuck: Fix It. For ease of use, the preventive maintenance and repair tips shown are color coded so youth can quickly locate just the segment needed.

---

**Acknowledgments**

**2006 Revision Team**

Kim Huffman, Lienz, NY; Dave Hassebrook, MI; Sue Toots, MI; Tom Zurcher, MI; Judy Branch, VT

**2006 Product Review Team**

Kim Huffman, NY; Dean Aakre, ND; Bill Million, IL

**Graphic Design**

Northern Design Group, Inc., MN

**Photographers**

Tim Hicks, TN; Adam Brady, TN; Northern Design Group, Inc., MN

**Original Design Team Members**

Ed Maxa, Chair, NC; Linda Crow, Liaison, ND; Carla Burgess, Writer/Editor, NC; Sarah Anderson, IL; Don Carbaugh, DE; Lois Chapin, NY; Jamal Elliot, DE; Gillian Griffin, MN; Julie Hudson-Schantisch, ND; Cynthia McArthur, MN; L. Ann Rund, IL; Cheryl Wyatt, KY

**Donor**

North Carolina Department of Transportation

---

Copyright 2006 National 4-H Council. All rights reserved. Reproduction without permission of National 4-H Council is strictly prohibited.
Bicycling 1
BICYCLING FOR FUN
Chapter 1 First Gear
Fitting a Helmet
Putting on the Groceries
Chapter 2 Road Rules
On Your Bike
Braking and Stopping
Is the Coast Clear?
Sign Language
Planning the Area
Taking Turns
Chapter 3 On Your Way
Boat Ride Short
How Do I Get There?

Bicycling 2
WHIPLASH IN MOTION
Chapter 1 Buying, Maintaining & Repair
Comparison Shopping
Pressure Checkup
Patch It
Chair Overhaul
Putting on the Groceries
Chapter 2 On the Road Skills
Kneel Your Tennant
X Marks the Spot
Traffic Manners
Shifting Gears
Emergency Turns
Shifty Maneuvers
Dos and Don’ts Riding
Chapter 3 Cycling for Life
Feeling the Engine
Starter Cables
Making a Difference

Video/DVD:
DON’T GET STUCK: FIX IT
Fitting a Helmet
Putting on the Groceries
Adjusting the Seat
Adjusting the Handlebars
Adjusting the Brake Levers
Preventive Maintenance
Removing Tires
Fixing a Tire
Adjusting Brakes—Cables and Plates
Adjusting the Headset
Repairs Best Left to a Bike Shop

For more on bicycling, look for the other guides in this set.

Welcome to Bicycle Adventures ........................................... Inside Front Cover
Table of Contents .............................................................. 1
Bicycle Project Helper Tips .................................................. 2
Teaching and Learning Experimentally ................................. 3

Chapter 1 – Making Preparations
Planning the Bike Project Year ............................................. 4
Journaled Your Adventure ..................................................... 6
Bike Shop Scavenger Hunt ..................................................... 8

Chapter 2 – Riding a Bike
Stop! Look! Listen! ............................................................... 10
Organizing a Group Ride .................................................... 12
Set the Pace ................................................................. 14
Single Track Fun ............................................................... 16

Chapter 3 – Bicycle Skill Activities
Fitting a Helmet ................................................................. 18
Identifying Bike Parts ........................................................ 19
Conducting a Pre-Ride Check ............................................. 20
Changing a Tire ............................................................... 21
Shifting Gears ................................................................. 22
Adjusting Brakes .............................................................. 23
Bicycle Skillathon Fun ....................................................... 24
It’s Bike Rodeo Time .......................................................... 28

Chapter 4 – Playing Bicycle Games
Playing Bicycle Pyramid .................................................... 30
Cycling Quiz Bowl Excitement ............................................ 32
Bicycle Bingo Bonanza ....................................................... 33

Bicycle Meeting Ideas ....................................................... 34
Measuring the Impact ........................................................ 35
Bicycle Resources ........................................................... 36
If you’re like most people, you haven’t had much, if any, cycling instruction. Consequently, you may be feeling a bit overwhelmed as a Bicycle Project Helper. Think back to your first bicycling experiences. You likely weren’t given much more than a shove down the driveway and a warning to stay away from cars. You may have been told to bike in a backyard, a driveway or on the sidewalk and gradually were allowed to go onto quiet streets or roads where there was little traffic. As you grew older, your interests expanded far beyond your backyard and the street you lived on. You wanted to go places on your own. As a result of such limited exposure, you didn’t have the first idea about how to bicycle with motor vehicles. Thanks to you, the youth you are helping will be much better prepared.

If you aren’t currently active as a cyclist, reacquaint yourself with the joys of bicycling by participating along with the youth. You’ll have much to gain on a personal level, and you’ll be far more successful in your helper role.

**Your Role as Bicycle Project Helper**

- Become familiar with the materials in this guide and the two activity guides.
- Support youth in their efforts to set goals and complete each Achievement Program.
- Process each activity with the youth by discussing the questions included for each activity.
- Initiate the activities in the Bicycle Achievement Programs as youth complete them.
- Help youth better understand themselves, including their strengths and limitations.
- Use the experiential learning model in all learning experiences.
- Evaluate the impact of the experiences.

**Activity Preparation**

Certain activities require special preparation; others may necessitate supplemental reading. Always read through each activity before starting, so there will be no surprises. Because the activities follow the experiential learning format, children are encouraged to try out ideas and solutions instead of being shown or given the “answer.” They learn by doing or using hands-on experiential methods. Information is included in this guide to help you become an effective helper.

**Helmets**

Many states require bicyclists to wear helmets. Regardless of the law in your state, 4-H recommends that all participants wear approved, properly fitted helmets (look for the Consumer Product Safety Commission label) every time they ride. Nobody expects to crash on a bicycle, but the laws of probability indicate otherwise. Approximately 75 percent of all serious bicycle injuries are head injuries. Road rash and broken bones heal; brain damage is often permanent. Wearing a helmet just makes common sense.

**Youth Learning Characteristics and Stages of Youth Development**

Do you know how to plan activities with youth that will best complement the way they learn? For example, do youth ages 8 to 10 prefer to work together or individually? Do they like to “do” activities or see others do them? Are they concrete or abstract thinkers? You’ll find very practical tips for working effectively with ages 5 through 13 in the Resources section on the 4-H Curriculum site (www.4-hcurriculum.org). You’ll also find excellent descriptions of characteristics of youth and how you as a helper might adapt your interactions with these youth.

**Developing Life Skills**

Teaching important cycling skills to youth is a primary goal of Bicycle Adventures. Another major purpose of this curriculum is to help youth develop life skills by letting them learn experientially. Every activity focuses on a particular life skill. Life skills are defined as skills that help an individual live a productive and satisfying life. For more information on Life Skill Development in Youth visit the Resources section on the 4-H Curriculum site (www.4-hcurriculum.org).
The 4-H Youth Development Program promotes the concept of learning-by-doing before being told or shown how. A five-step experiential process helps turn activities into learning experiences. The experiential process of learning engages youth in the activity, encouraging them to think more, explore, question, make decisions and apply what they have learned. You will note that each of the activities follows this five-step model.

**Experience**

Notice that the model begins with an experience: action. In each Bicycle Adventures activity, the experience is the “do” part of the activity. This immediately focuses the attention on the learner rather than the teacher. When the learner is encouraged to learn by doing before being told or shown how, he or she can practice a wide variety of life skills, depending on the method used to engage the youth in the experience. As the helper, your challenge is to “sit on your hands” as much as possible during the experience step.

**Learn by doing**

**Share**

The last four steps of the model are addressed in the questions or “Backtrack” section of each activity. The questions are structured to elicit answers beyond a “yes,” “no,” or single word response. As the model shows, sharing is simply asking the group or individual: What did you do? What happened? What did it feel like to do (whatever the activity was)? This step will generate lots of information to lead to the “process” step.

**Process**

The “process” questions focus on what was important about the experience. Common themes that emerge from the sharing session are explored in more depth. The key teaching points relating to the subject matter often are discussed.

**Generalize**

In this step, discussion becomes more personal. The “generalize” questions are the “so what?” of the activity. What did the experience mean to me personally and to my everyday life? The subject matter alone could remain the focus of the discussion in all five steps of the model. But because the major goal is to help youth develop important life skills, a large part of the discussion shifts to the life skill practiced in doing the activity. If the method employed required the youth to work in teams to complete the activity, questions about teamwork would be appropriate. If the methodology asks the youth to communicate, communication skills are discussed.

**Apply**

Here, the youth express what they really learned and how they can use the skill. Or they might actually show they have mastered the skill by performing another activity that requires use of the new skill. Remember that the questions are your way of assessing what has been learned. The answers you get will help you evaluate the youth’s level of skill mastery.
Chapter 1
Making Preparations

PLANNING THE BIKE PROJECT YEAR

Bicycle project meetings offer exciting settings for youth to develop both cycling and life skills. By participating in planning, youth develop an important life skill as well as become more personally involved in the group’s activities. You’ll find programs will more closely meet the needs of youth when everyone participates in identifying what to do, when to do it, how to do it and who will do it.

This activity has been designed to help your group plan its annual program. Helping a group plan a year’s program or just one meeting takes a lot of patience and the ability to “sit on one’s hands” while the members work together and practice important life skills.

GETTING STARTED

Before the meeting you may want to talk with the parents to see what they feel their children need and how this program can help. This is also a good time to introduce the bicycle project literature and the list of project meeting ideas from page 34 to help them become better acquainted with the project.

First, ask everyone what the group’s goals should be for the year. The process described here is to determine what the activities should be and also be used to set goals. Then ask each person to write ideas for project meetings and supporting activities (community service, contests, fun days, promotions, etc.). Sometimes youth can generate more ideas by working together in groups of two or three with one person writing the ideas. Provide copies of the activity guides and the list of project meeting ideas.

Next, have each person share his/her ideas in round robin fashion. One person shares an activity idea, then the next person and so on until all ideas have been given and recorded on a blackboard or a large sheet of paper. List the ideas quickly without discussion, comments or judgments. After all ideas are listed, provide time for the person who suggested the idea to clarify or explain it. Others can add support, questions or criticism. After a short discussion, move to the next idea.

From all the ideas generated and discussed have each individual rate the items in the order of preference on a separate sheet of paper. You may want to have participants indicate their top five, 10 or whatever choices. If choices are indicated, the top choice would receive a 10 and the last choice a 1.

Read each idea and have all members give their rankings. Add up the numbers. Allow time to discuss the choices as they relate to the group’s overall goals. From the decisions made, outline the list of topics for the year’s program.

Deciding Who Does What

Now that the group has decided what they want to do and learn, you will want to be sure everyone shares in the responsibility of seeing that it happens. Allow as many members (and families) as possible to have a specific job on the year’s program. Recreation, demonstrations, community service, refreshments and hosting the main program are all possibilities. If the group is large, the team approach is encouraged.

Completing the Program

Write an outline so everyone can see the plan taking shape. After the program is completed, make copies for each family. You might include a list of everyone’s name, phone number and e-mail address.

Pencils, paper, flip chart or blackboard, markers, poster paper (optional), bicycle achievement programs, activity guides, bicycle resource materials
**Backtrack**

**GET ROLLING (Share)**
- What have you learned about planning?
- What do you think will be the most fun to do this year?

**CRUISING (Process)**
- Why are decisions made through discussion often more accepted than those made by voting?
- Why is it important for youth, parents and leaders to work together on planning activities?
- What life skills did you practice when you planned?

**SPINNING (Generalize)**
- How will this experience help you plan family experiences?
- How will it help you plan other areas of your life?

**FINAL LAP (Apply)**
- How will the way you plan your week or year change as a result of this experience?

---

**Bicycle Project Group Calendar**

Name of group __________________________
Name of leaders ________________________
Bicycle Project group goals for the year __________
- All members complete at least one-half of their bicycle achievement programs.
- Practice the life skills of decision making and planning.
- Involve each family in activities.

<table>
<thead>
<tr>
<th>Meeting Date, Time and Place</th>
<th>Meeting Topic and Planned Activities</th>
<th>Who is Responsible</th>
<th>What to Do Before Next Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 12, Garcia’s 7:00</td>
<td>Bicycle Skillathon</td>
<td>Mary and Alex</td>
<td>Each family collect Skillathon station supplies</td>
</tr>
</tbody>
</table>

Find a master calendar online.

---

**Planning Tips**

**Planning for Success – Making a Lesson Plan**

A lesson plan (in some format) should be developed for each and every club meeting, event, activity, fieldtrip or experience. These plans can serve as “maps” to help you get to where you and the group want to be.

The more time you spend planning, conducting and evaluating these experiences the better “teacher” you will become. Remember that this program is based on the belief that experiential education is often the best type of learning. This is as true for leaders and teachers as for anyone else. Get the youth involved in learning by doing it.

A lesson plan moves from the general to the specific. For example:

- **Purpose** – Why are we having this meeting?
- **Goals** – What should the youth get from this meeting?
- **Objectives** – How will I know if he/she got it?
- **Procedure** – What steps need to be taken to reach the objectives?
- **Materials/resources** – What things/people are needed for this?
- **Evaluation** – Did this activity work?

**Planning a Group Meeting**

Remember what it was like to be a kid. Try to be in touch with the feelings of kids. What is fun? What is exciting? What is interesting?

Make the time to plan for each experience, regardless of whether it is a meeting, bicycle trip, bike rodeo or individual lesson.

Plan for the individual members—consider who they are, what they are to learn and how best to help them experience the activity—and evaluate if things went as well as they could have.

**Make Safety a Priority**

Provide members and their families with a printed list of guidelines for participation. Guidelines may include expected behavior, personal items they are expected to bring, things you will provide (i.e., list of participants with phone numbers, first aid kit, how you will handle situations like severe weather) and your goals for the group. You should have a standing set of safety guidelines for your activities and bike outings including off-limits areas, spacing of bikers, use of safety equipment and other rules appropriate to the type of biking your group is doing.

---

**Pedaling Harder**

1. Promote your group in the community by doing one of the activities listed in the Bicycle Meeting ideas on page 34.

2. Organize another bicycle club in the community.
Periodically in the Bicycle Adventures series, youth are encouraged to record special accomplishments and log their progress in the Achievement Program. Keeping a journal or a scrapbook is a natural extension of this process. Even a very young child can benefit from learning to express his or her thoughts in writing and graphically. This activity will introduce the youth to journaling.

**Getting Started**

You can have individuals bring a notebook or journal to this session—or have them make journals as part of the activity. Start a discussion about journaling by asking the youth if they’ve ever kept a diary. Ask them to describe the kinds of things they wrote about. Make the point that by writing things down, people often make better sense of their thoughts.

A journal is not only a place to record special milestones, but also a place to write about day-to-day progress and goals that they set for themselves. Some athletes keep a journal to gauge their growth and progress; gardeners may keep journals to remember what is planted where and to record information about what works and what doesn’t in the garden; writers keep journals to record ideas for stories and to free up their ideas.

Once the youth have their journals, ask them to write one entry each during the meeting about bicycle experiences they have had. Suggest they start by recording the age when they started bicycling and describing the skills they have learned so far. Encourage them not to worry about making spelling errors: A journal is a place to record your thoughts as they come to you. No one has to read it or “grade” you on it. After everyone has written something ask for volunteers to share their entries.

**Bicycle Skill:** Keeping a journal

**Life Skill:** Marketable skills (acquire, communicate, organize, use, and evaluate information; use computers to process information)

**Educational Standard:** [NCTE 5] Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes

**Success Indicator:** Makes regular journal entries about bicycling

**Time Involved:** 45 to 60 minutes

*Scrapbooking (journaling) helps us remember, evaluate progress and express ourselves.*
PEDALING HARDER

1. Develop a scrapbook or a scrapbook of your bicycle adventures. Create a community section in your journal that you can add to and keep over time. This section can include memories, photographs, and stories about your cycling experiences.

2. Exhibit a journal or a scrapbook of your bicycle adventures. Create a community section in your journal that you can add to and keep over time. This section can include memories, photographs, and stories about your cycling experiences.

BACKTRACK

Why is journaling a great way to keep track of your cycling experiences?

What will help you remember to write in your journal more often?

CRUSING (Process)

- Why do you think that keeping a journal or making a scrapbook is so popular today?
- What would you do if you never had a journal to record your experiences?
- How can you keep a journal and make it easy to use?

FINAL LAP (Apply)

- What kind of entries will you make in your journal?
- How might you use your journal only for your own use, or do you want to share some of your entries with others? How would you journal your travel only for your own use, or do you want to share some of your entries with others?

GET ROLLING (Share)

- Find a journal or a scrapbook of your bicycle adventures. Create a community section in your journal that you can add to and keep over time. This section can include memories, photographs, and stories about your cycling experiences.

JOURNALING TIPS

- Take notes on your rides. Describe the route, the weather, the people you met, and any other interesting details.
- Review your journal regularly to reflect on your experiences and progress.
- Share your journal with friends or family to inspire them to start their own journaling.
- Keep your journal in a place where you can easily access it, such as in your backpack or on your bike rack.
- Create a cover for your journal that reflects your cycling theme, such as a photograph of your bicycle or a drawing of a scenic ride.
- Use prompts or themes to keep your journaling interesting and meaningful.
Bike Shop Scavenger Hunt

A scavenger hunt is a great way for your group to be introduced to the local cycling community as well as discover what products are available to cyclists. In this activity your group will develop teamwork skills as they search for bike information and answer questions.

Getting Started

Meet with the manager of your local bike shop to discuss the activity and determine the best time to conduct the scavenger hunt. Prepare the Scavenger Hunt handout to provide to each team. Developing a list of questions with the group and assigning a question or two for each person to ask the bike shop employees will get everyone quickly involved and thinking about the activity. Prior to going to the shop introduce the handout so the activity can start quickly once you arrive.

When you arrive at the shop, make introductions, provide a brief overview of the activity so the shop personnel know what to expect and divide the group into teams of two or three individuals. Allow 10–20 minutes to find the items on the handout and answer the questions. Ready! Set! Go! After the teams have completed the scavenger hunt process the experience and allow time to ask the shop operator questions. If space allows, going to each location in the store to discuss the questions will work well.

Discovering new equipment together is fun.

Backtrack

Get Rolling (Share)
- What was most interesting?
- What was new to you?
- What surprised you?

Cruising (Process)
- What would you like as your next purchase?
- How did you work as a team to complete the scavenger hunt?

Spinning (Generalize)
- What bike did you find that you would like for the kind of riding you do?

Final Lap (Apply)
- How could you use this bike shop in the future?

Spoke Speak Words
- Spokes
- Truing stand
- Kevlar
- Aerodynamics
- Clipless pedals
- Cleats
- Suspension
- Saddle
- Titanium
- Carbon fiber

Tool Kit
List of scavenger hunt challenges, pencil
BICYCLE SHOP SCAVENGER HUNT ITEMS

# 1 - Frames
List three types of frames:

Q. How do the frames differ?
Q. How are the frames designed for a particular type of riding?
Q. Shop Operator: What type of frame material do you prefer for different types of cycling and why?

# 2 - Tire Treads
List three types of tires:

Q. How are the treads different on each type of tire?
Q. What treads are designed for what type of terrain/riding?
Q. Why aren’t the front and rear tires always alike?
Q. Shop Operator: What makes a good tire? What are the advantages of a foldable tire?

# 3 - Bikes
List three makes of bikes:

Q. Which company makes the most expensive bikes?
Q. What is the most common make of bike in the shop?
Q. Shop Operator: What is the most popular bike that your shop sells?

# 4 - Clothing
List three pieces of clothing that are just for cyclists:

Q. How do cycling clothes differ from everyday clothing?
Q. What features have been included specifically for cyclist?
Q. Shop Operator: How do avid cyclists deal with seasonal weather changes?

# 5 - Pedals
List two different kinds of pedals:

Q. How do pedals differ on different types of bikes?
Q. What is the advantage of having your foot held securely to the pedal?
Q. Shop Operator: Why do “clipless” pedals seem to have clips?

# 6 - Helmets
List the name of the helmet with the most holes and the one with the least holes. List three categories of helmets:

Q. What kind of cycling would each kind of helmet be best suited for?
Q. What are the differences between inexpensive and expensive helmets?
Q. How do (or don’t) the added features add to the safety of the helmets?
Q. How does a helmet protect the head?
Q. How safe is a cracked helmet?
Q. Shop Operator: How do you know if a helmet is on correctly?

# 7 - Safety Equipment
List three pieces of safety equipment other than helmets:

Q. What parts of the body need safety equipment to protect them?
Q. What safety equipment did you find on the bikes?
Q. Shop Operator: What safety equipment do you recommend for the beginning rider?

# 8 - Food for the Ride
List one food to be consumed for each of the following times—before a ride, during a ride and after a ride.

Q. How do foods that are meant to be eaten at different times differ?
Q. How are these foods designed to be eaten by the rider?
Q. Shop Operator: How popular are specialty foods for cyclists?

# 9 - Air Pressure
Q. List three recommended tire pressures:

Q. What bikes have the highest recommended pressure?
Q. Where is the recommended air pressure for a tire shown?
Q. Shop Operator: What are the most popular tires?

# 10 - Wheels
List four wheels with different types of spoke patterns:

Q. How do the patterns of spokes on different wheels differ?
Q. What is the difference between how a front wheel is spoked and how the back wheel is spoked?
Q. Shop Operator: What tools do you use to build a wheel?

PEDALING HARDER

1. Find in your community examples of five different kinds of bikes discussed at the shop.

2. Explore on the Internet the type of riding that interests you (mountain biking, cross country, dual slalom, trail, urban assault, BMX, road cycling, etc.).

Written by Dave Hessebrock and Tom Zurocher.