



Getting Stronger, Going Farther

Bicycling is a great way to combine exercise, travel, and recreation in one activity. Few activities are better than uphill cycling for intense aerobic exercise and physical fitness. Cycling's downhill speed is simply thrilling. Another attraction is that you can bicycle four times farther than you can jog in the same time period. Even cycling to school or work is much more than just a transportation alternative. It is always recreational, diverting your mind from your daily indoor work to enjoyment of the outdoor environment. It is a means of travel that will reduce stress and restore and energize your spirits.

You can ride in bicycle races if you like, but most cycling is the noncompetitive touring or commuting type—although you will probably have trouble resisting the urge to pass those riding ahead of you even when you are only touring or commuting. Trick riding on BMX bikes and trail riding on mountain bikes are also part of the cycling scene. Whether you stick to only one type or participate in all kinds of cycling, you will probably find that cycling becomes a valuable and enjoyable lifelong activity. It might even lead you to a career.

Objectives

This month's activities should:

- Show Scouts how to ride safely.
- Teach cycling first aid.
- Teach Scouts how to maintain and repair their bikes.
- Show Scouts how to plan rides and routes.
- Teach good cycling nutrition.
- Introduce Scouts to cycling organizations.
- Teach about cycling gear and clothing.

RELATED ADVANCEMENT AND AWARDS

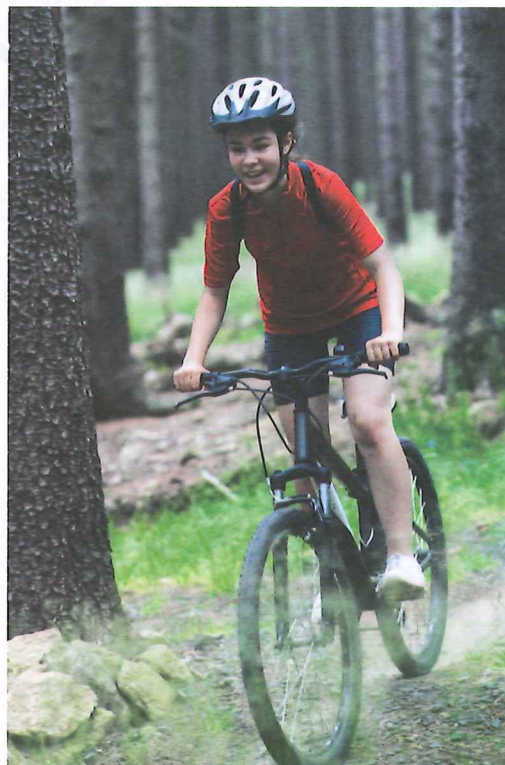
- Tenderfoot requirements 2
- Second Class requirements 1b and 3a
- First Class requirements 3 and 10
- Cycling merit badge
- Personal Fitness merit badge
- 50-Miler Award
- Cycling and Freestyle Biking Varsity Scout activity pins
- Ranger: Cycling/Mountain Biking elective
- Quest requirement 5



Leadership Planning

As a leadership team, you may want to discuss the following items when choosing cycling as your program feature during your planning meetings.

1. Do we know an accomplished adult cyclist who is also a good Scouter?
2. Where are the local bicycle stores?
3. What bike organizations and clubs exist in our community?
4. Do our members all have bikes and helmets? If not, how can we help them get equipped?
5. What cycling skills do our members already have, and what do they lack?
6. Does our community have a bike route map?
7. What are the best bike trails near us?
8. What are the best-organized bike events and programs in our community?
9. What kind of cycling will be most interesting to our members?



PARENTS CAN HELP WITH THE CYCLING PROGRAM FEATURE BY:

1. Providing and requiring the use of helmets
2. Participating as riders or support drivers
3. Providing safe and functional bikes
4. Providing proper clothing and shoes
5. Providing repair and maintenance tools and expertise

BICYCLING SAFETY TRAINING

The speed made possible by riding a bicycle inherently increases the risk of injury, with the head being the most vulnerable body part. However, any bicycle fall is potentially life threatening even without speed, because the head is likely to strike a hard surface with enough force to cause a concussion, if not a skull fracture. Accordingly, an essential part of cycling gear is a good quality and well-fitted helmet. It is essential to understand the risk involved from head injury and the absolute necessity of wearing a helmet when biking.



The helmet, however, is no match for a collision with a motor vehicle. Youths often want to ride in vehicular traffic without an adequate respect for and understanding of the risks related to the bike and motor vehicle collision. The bike rider always loses in such a collision.



Defensive riding practices and cycling rules of the road must be learned and practiced before riding in vehicular traffic. Practice should be conducted on bike trails or lightly traveled roads until skill levels are sufficient for safe riding in traffic. Special attention should be paid to staying in the bike lane and being alert for the danger of doors being flung open into the bike lane by parked cars and with drivers making a right-hand turn across bike lanes.

Bicycling need not be too expensive. A great many used bikes are available for sale at affordable prices. Likewise, bike helmets and clothing can be purchased inexpensively with a little searching. Discount sellers are easy to find both in traditional stores and on sellers' websites. Like most products, however, you often get what you pay for in terms of quality, and there always are low-quality bicycle products for sale that should be avoided. Determining the quality of bikes and accessories is something leaders can teach.

Nutrition

Good nutrition is critical for long-distance bike riding and endurance. Energy drinks should be used if riding more than 10 miles to replace electrolytes and help prevent muscle cramping—especially when climbing hills. You have to force yourself to eat and drink, because thirst and hunger are suppressed when riding. Energy bars or gels supply necessary biking fuel, and they can replace the high number of calories burned when riding more than 10 miles.



Bicycle Training and Touring

While almost anyone can ride a bike for 10 to 20 miles, rides of longer distances require training to condition the body for the stress involved and to build endurance. Many Scouts have believed they were the exception to the rule and were so strong that they could ride 50 or more miles without training, only to find they “hit the wall” after about 20 miles and had to quit.

How to avoid this embarrassing situation? Plan a series of training rides leading up to the long-distance main event. With a couple of months of training, one can ride 100 miles; with only one month of training, one can easily ride 50 miles to satisfy the requirements of the Cycling merit badge using a road bike, or 22 miles using a mountain bike.

Like most athletic conditioning, consistent daily training is the key. A daily ride of 10 to 15 miles is ideal and should take only about one hour to complete. Then, on weekends, take longer rides of 20, 30, 40, and finally 50 miles to satisfy the merit badge requirements (using a road bike). Following that feat, if desired, keep training for another month to complete an all-day “century” ride of 100 miles as a highlight of the summer.

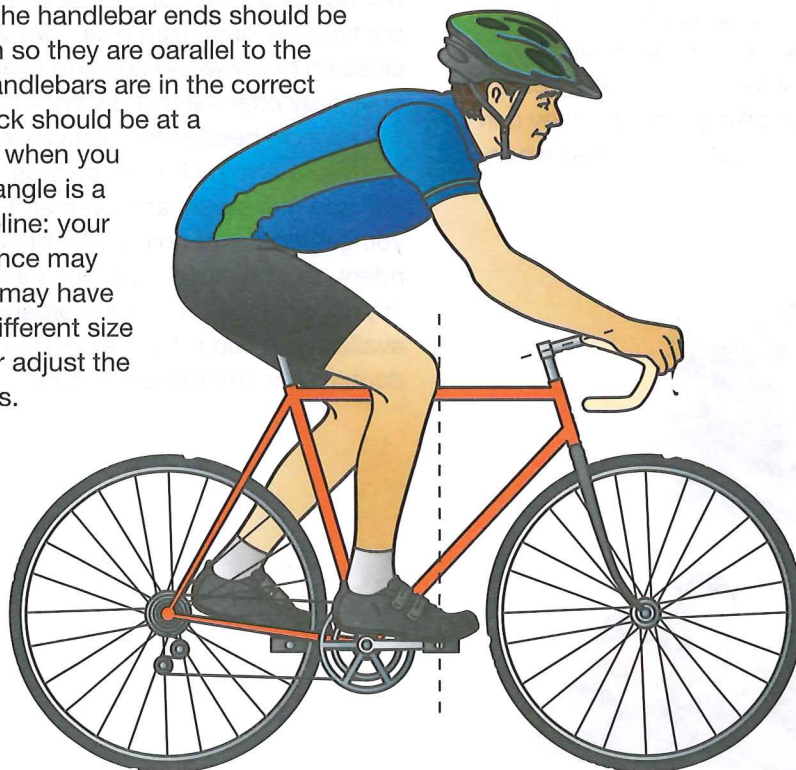
During the spring, summer, and fall months, there are typically organized bike rides available in most cities on many weekends and even weekdays. They may offer varying distances and provide the support needed for relatively carefree group touring. Some such rides provide T-shirts, well-stocked rest stops, and even entertainment. Plus, you get the fun of riding with lots of experienced riders. Contact local bike clubs and organizations in your city to find out what organized rides are available. Group rides are great fun and often double as a charitable event for a good cause.



Before you start training for a long-distance ride, it is important to make sure you have the right bike that fits you well. Bikes are made for different types of riding and cannot effectively be used interchangeably. Mountain bikes are designed for trail riding and should not be used for long-distance road riding. That is because they are too heavy to be ridden long distances at high speeds. Weight—lack of weight, really—is everything in long-distance riding and especially hill climbing. To satisfy the 50-mile ride requirement for the Cycling merit badge, you should use a lightweight road bike, preferably one weighing no more than about 25 pounds.

Good fit is as important as weight. Little neck or seat pains quickly become unbearable over many miles. The most important part of your bike is the seat, and a newer ergonomic design is really worthwhile for comfort on long rides. Get expert assistance to make sure your bike is the right type, size, and design for your body type and for long-distance riding—and that it's properly adjusted for you. Padded bike shorts are also recommended for comfortable long-distance riding. This can be purchased at most stores that carry cycling equipment.

On a road bike, the handlebar ends should be tilted up or down so they are parallel to the ground. If the handlebars are in the correct position, your back should be at a 45-degree angle when you are riding. (This angle is a suggested guideline: your personal preference may vary.) If not, you may have to change to a different size handlebar stem or adjust the height of the bars.



Avoiding Cycling Sunburn

Skin sun damage is cumulative and can lead to skin cancer. To avoid skin damage, follow these tips:

- Use a sunblock with a sun protection factor (SPF) of 30 or higher on all exposed skin, and reapply it several times during the day.
- Use gloves for protection from the sun and spills.
- Wear long sleeves and biking tights.
- Wear a head and neck cover. Your helmet will also provide some protection from the sun.





To check the fit of a bicycle, straddle the top tube and lift the handlebars until the top tube reaches your crotch level. If the road bike fits you, there should be about an inch or two of space between the front tire and the ground, which allows you to dismount safely and ride with maximum efficiency. For a mountain bike, there should be 2 to 4 inches of space.

Four Weekend Rides for Cycling Merit Badge

Here is a simple plan to work toward the Cycling merit badge. Scouts should also ride on their own or in small groups in between these rides. Your counselor can help you adjust the mileage if you plan to use a mountain bike instead of a road bike.

Weekend 1 Training Ride

Distance: 20 miles

Elevation gain: 300 feet

Average speed: 12 mph

Time goal: 2 hours, including rest and food breaks

Weekend 2 Training Ride

Distance: 30 miles

Elevation gain: 500 feet

Average speed: 13 mph

Time goal: 3 hours, including two breaks for rest and food

Weekend 3 Training Ride

Distance: 40 miles

Elevation gain: 800 feet

Average speed: 14 mph

Time goal: 4 hours, including three breaks for ride rest and food

Weekend 4 Training Ride

Distance: 50 miles

Elevation gain: 1,000 feet

Average speed: 15 mph

Time goal: 4.5 hours, including four rest and food breaks



E.D.G.E. Ideas

Explain how it is done—Tell them.

Demonstrate the steps—Show them.

Guide learners as they practice—Watch them do it.

Enable them to succeed on their own—Have them practice/teach it.

EXPLAIN

- Explain different types of bikes, and discuss how to acquire a bike.
- Explain the importance of wearing a helmet and proper clothing when riding.
- Discuss the need for energy food and drinks.
- Explain riding rules and safety measures.
- Discuss the steps in route mapping and trip planning.
- Show bike videos from Bicycling.com or other trusted sites.
- Introduce local bike clubs and organizations, and explain what they offer.

DEMONSTRATE

- Demonstrate safe riding techniques.
- Show how to perform bicycle maintenance and use repair tools.
- Show how to change a flat tire.
- Adjust brakes, seat, etc., on a bike.
- Show Scouts how to check helmet fit and make needed adjustments.
- Walk through the use of Internet route-planning tools; if possible, use a projector so everyone can easily see the computer screen.
- Visit a bike store or bike club event.
- Wear biking clothing and gear to a meeting.
- Demonstrate first aid for cyclists.

GUIDE

- Hold a bike rodeo to practice safe riding techniques.
- Have Scouts replace a tube while you watch.
- Have Scouts adjust each other's bikes (brakes, seats, etc.) while you watch.
- Take a leader-led ride around the block; have the leader guide Scouts in using proper hand and vocal signals.
- Have Scouts go online to plan bike routes near your meeting place.
- Have Scouts practice first aid; give feedback on their performance.

ENABLE

- Ride routes planned by Scouts.
- Have Scouts do a preride inspection of each other's bikes.
- During a training ride, have Scouts take turns serving as ride leader.
- Film and review a video of the Scouts riding.
- Debrief after rides and discuss lessons learned.
- Encourage Scouts to create videos of group rides to show at courts of honor and unit open houses.
- Have Scouts plan and run a Cub Scout bike rodeo.

MAIN EVENT SUMMARIES

● ESSENTIAL

Day Activity

Out-and-back bike ride—After a month of training, take an out-and-back bike ride on local trails or roads lasting 4 to 5 hours, including three breaks for rest and food.

■ CHALLENGING

Overnight Activity

100-mile bike trip—After two months of training, take a one-day century (100-mile) ride from your campsite or ride 50 miles to a campsite, stay overnight, and ride 50 miles back. Use support vehicles to carry gear.

◆ ADVANCED

Overnight or More Activity

Cycling trek—Ride bikes for a multnight ride on a scenic route. Carry all gear on bikes without any support vehicle and aim to cover 75 miles per day. For a special challenge, bike from one end of your state to the other.



CYCLING

Meeting Plan: Bicycle Basics



Week 1 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Watch YouTube bike videos of Danny MacAskill trick riding.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 20 minutes	Discuss cycling safety and traffic rules, and introduce these topics: • Bike types and parts • Bike clothing and helmets • Bike training and nutritional needs		7:10 p.m.
Skills Instruction 20 minutes   	• Learn how to change tires and tubes. • Learn how to adjust brakes, seat, and stem tube. • Learn skills for short-distance street riding.		7:30 p.m.
	• Discuss a training regimen for a 50-mile ride. • Discuss nutritional requirements for a 50-mile ride. • Discuss clothing for a 50-mile ride.		
	• Discuss gear storage systems for road bikes. • Practice using toe clips or clipless pedals and shoes. • Discuss clothing needs for long-distance touring. • Discuss gear needs for long-distance touring.		
Breakout Groups 15 minutes	• Practice for the game. • Study safety rules and your city/state traffic laws, and practice riding an obstacle course.		7:50 p.m.
Game 20 minutes	Do one of these activities: • Have a tire-changing speed competition. • Run a short bicycle race or obstacle course. • Run a group trivia competition on safety and traffic rules.		8:05 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.



CYCLING

Meeting Plan: Route Planning



Week 2 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Watch a YouTube video about a major cycling event like RAGBRAI or Race Across America. Inspect bicycles and bike clothing. Have arriving Scouts report on training rides they've taken.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law		7 p.m.
Group Instruction 10 minutes	• Introduce bicycle route maps. • Demonstrate websites for bike riders. • Demonstrate online route map creation.		7:10 p.m.
Skills Instruction 30 minutes	• Discuss safe cycling route criteria and streets to avoid. • Brainstorm most common dangers for city cyclists. • Demonstrate signals for turns and stopping. • Discuss other defensive riding techniques.		7:20 p.m.
	• Discuss customary practices of long-distance group riding. • Teach drafting technique and sharing of the lead position. • Discuss techniques to avoid seat and neck pain and injury. • Walk through route planning for a 50-mile ride.		
	• Explain long-distance route criteria and route-elevation profiles. • Discuss long-hill climbing and descent techniques. • Discuss endurance nutrition and hydration. • Walk through route planning for a week-long tour.		
Breakout Groups 15 minutes	• Prepare for route planning using Internet resources. • Practice riding skills, and review traffic rules.		7:50 p.m.
Game 20 minutes	Do one of these activities • Have groups go online and try to create the best bike route (starting at your meeting place) that meets certain criteria like distance or passing given landmarks. • Hold a riding-skills competition. • Hold a traffic-rules testing game.		8:05 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.



CYCLING

Meeting Plan: Riding Skills Demonstration



Week 3 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Inspect helmets, gear, and clothing. If the main event will be an organized bike club ride or fundraiser, distribute registration forms.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law		7 p.m.
Group Instruction 10 minutes	• Explain skills to be demonstrated later in the meeting. • Explain the route to be covered on evaluation rides. • Assign riders to leaders for evaluation. • Assemble at the starting line.		7:10 p.m.
Skills Instruction 20 minutes   	Cover these skills that will be used in evaluation rides: • Staying in the bike lane • Turning, stopping, and passing signals and alerts • Obeying traffic signs and signals • Maintaining safe speeds for conditions		7:20 p.m.
	Cover these skills that will be used in evaluation rides: • Drafting in group of fast riders • Signaling to other group members • Taking the lead position • Obeying traffic signs and signals		
	Cover these skills that will be used in evaluation rides: • Packing camping gear on bike • Riding at night using lights • Obeying traffic signs and signals • Riding bikes, fully loaded with gear, up and down a steep hill		
Breakout Groups 15 minutes	Prepare groups to compete in demonstrating skills learned.		7:40 p.m.
Activity 30 minutes	• Take evaluation rides from the meeting place. • Test the skills covered earlier. • Score groups and individuals and note needed improvements.		7:55 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.



CYCLING

Meeting Plan: Main Event

Final Preparation



Week 4 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Have Scouts ride to the meeting by bike for final inspection.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law		7 p.m.
Group Instruction 10 minutes	- Finalize the route for the main event. - Discuss transportation to and from starting line. - Discuss support arrangements. - Hold a final inspection of bikes, clothing, and gear.		7:10 p.m.
Skills Instruction 25 minutes	- Discuss the benefits of bike commuting to and from school. - Discuss the health benefits of biking. - Show resources available for more biking information. - Discuss setting goals for long-term cycling.		7:20 p.m.
	- Discuss year-round biking as a better transportation alternative. - Teach winter-weather biking techniques. - Discuss winter-weather bike lighting, gear, and clothing. - Discuss summer recreational biking opportunities.		
	- Discuss competitive bicycle racing organizations and events. - Discuss noncompetitive bicycle clubs, touring groups, and events. - Discuss bicycle vacation touring as a great way to stay fit on vacation. - Discuss advanced-level bikes and equipment; if possible, visit a well-stocked bike shop.		
Breakout Groups 20 minutes	- Work online to explore biking resources. - Study final route alternatives for the main event. - Finalize route map for main event. - Write personal and group goals for future biking activity.		7:45 p.m.
Combined Activity 20 minutes	Invite a guest from a local bike club or organization to discuss area cycling opportunities and how to get involved in cycling groups.		8:05 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.



CYCLING

Main Event: Out-and-Back Bike Ride



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: 4 to 5 hours

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Tour and activity plan: Completed _____ Submitted _____

Essential (Tier I)

After a month of training, take an out-and-back bike ride on local trails or roads. The ride should last four to five hours, including three breaks for rest and food.

Equipment List

- Lightweight road bicycles
- Water bottles
- Two spare inner tubes
- Air pump or cartridges
- Tire-changing tools
- Cell phone for emergency use
- Sunblock
- Padded bike shorts and suitable clothing
- Scout Basic Essentials (Review the list and take what you need.)

Activity

- Plan a 50-mile out-and-back bike ride.
- Recruit volunteers to staff rest stops with food and drinks every 10 or so miles—or make sure store stops are available. (Note that drivers can leapfrog the group and staff multiple stops).
- Make sure restrooms are available near the rest stops.

Safety

Use sunscreen. Have one adult rider for every four or five youth riders, and make sure everyone stays hydrated. Carry a cell phone and first-aid kit, and have a way to contact a support vehicle in case of problems on the road.

Notes

It's best to start the ride in the morning so that any slow riders will have plenty of time to finish during daylight hours.



CYCLING

Main Event: Challenging 100-Mile Bike Trip



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: Overnight

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Tour and activity plan: Completed _____ Submitted _____

Challenging (Tier II)

After two months of training, take a one-day century (100-mile) ride from your campsite—or ride 50 miles to a campsite, stay overnight, and ride 50 miles back. Use support vehicles to carry gear.

Equipment List

- Lightweight road bicycles
- Water bottles
- Two spare inner tubes
- Air pump or cartridges
- Tire-changing tools
- Cell phone for emergency use
- Sunblock
- Padded bike shorts and suitable clothing
- Food
- Water
- Scout Basic Essentials (Review the list and take what you need.)

Activity

- Plan 50-mile routes to a campsite or a 100-mile route from a campsite.
- If you are riding to the campsite, recruit drivers to carry camping gear to the site.
- Recruit volunteers to staff rest stops with food and drinks every 15 to 20 miles—or make sure store stops are available. (Note that drivers can leapfrog the group and staff multiple stops).
- Make sure restrooms are available near the rest stops.
- Consider participating in a scheduled ride organized by a charity or bike club to take advantage of support services they already plan to provide.

Safety

Use sunscreen. Have one adult rider for every four or five youth riders, and make sure everyone stays hydrated. Carry a cell phone and first-aid kit, and have a way to contact a support vehicle in case of problems on the road.

Notes

Especially with the century option, it's best to start the ride in the morning so that any slow riders will have plenty of time to finish during daylight hours. Century rides should be limited to those riders who've proven themselves capable of riding more than 50 miles at a relatively fast pace. It's also important to have someone set a comfortable pace early so that riders don't wear themselves out.



CYCLING

Main Event: Cycling Trek



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: Weekend or longer

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Tour and activity plan: Completed _____ Submitted _____



Advanced (Tier III)

Ride bikes for multiday ride on a scenic route; carry all gear on bikes without any support vehicles and aim to cover 75 miles per day. For a special challenge, bike from one end of your state to the other.

Equipment List

- Lightweight road bicycles
- Water bottles
- Two spare inner tubes
- Air pump or cartridges
- Tire-changing tools
- Cell phone for emergency use
- Sunblock
- Padded bike shorts and suitable clothing
- Scout Basic Essentials (Review the list and take what you need.)
- Racks and pannier bags sufficient to carry all necessary camping gear
- Food and water for the road, although most food should be purchased along the ride because it is too heavy to carry on bikes

Activity

- Working with local cycling experts, research options for a multiday unsupported bike tour.
- Consider a goal such as cycling across your state or cycling the length of a recreational trail.
- Plot your route so that you ride 50 to 75 miles per day.
- Identify camping sites and food sources for each day.
- Consider recreational opportunities for each evening.
- If possible, have someone drive the route ahead of time to make sure stores haven't closed, the roads are in good condition, and the hills are climbable.
- Remember to make the route fun as well as challenging so that everyone will have good memories of an enjoyable trip.
- Arrange transportation for riders and bikes to the starting point and from the ending point.

Safety

Use sunscreen. Have one adult rider for every four or five youth riders, and make sure everyone stays hydrated. Carry a cell phone and first-aid kit, and have a way to contact a support vehicle in case of problems on the road.

Notes

It's best to start each day's ride in the morning so that any slow riders will have plenty of time to finish during daylight hours. This main event should be limited to those riders who've proven themselves capable of riding more than 50 miles on consecutive days at a relatively fast pace. It's also important to have someone set a comfortable pace each day so that riders don't wear themselves out.



RESOURCES AND REFERENCES

Books

Cycling merit badge pamphlet

Boy Scout Handbook

Websites

Adventure Cycling Association

Website: www.adv-cycling.org

American Bicycle Association

Website: www.ababmx.com

Bicycling Magazine

Website: www.bicyclingmagazine.com

Bikely

Website: www.bikely.com

Gmap-Pedometer

Website: www.gmap-pedometer.com

International Mountain Bicycling Association

Website: www.imba.com

League of American Bicyclists

Website: www.bikeleague.org

Map My Ride

Website: www.mapmyride.com

Mountain Bike magazine

Website: www.mountainbike.com

Ride With GPS

Website: ridewithgps.com

USA Cycling

Website: www.usacycling.org

Veloroutes

Website: veloroutes.org/bikemaps

Related Program Features

Camping, Geocaching, Hiking, and Orienteering