



Cycling

Merit Badge Workbook



This workbook can help you, but you still need to read the merit badge pamphlet.
This Workbook can help you organize your thoughts as you prepare to meet with your merit badge counselor

Merit Badge Counselors may not require the use of this or any similar workbooks.

You still must satisfy your counselor that you can demonstrate each skill and have learned the information.

You should use the work space provided for each requirement to keep track of which requirements have been completed, and to make notes for discussing the item with your counselor, not for providing full and complete answers.

If a requirement says that you must take an action using words such as "discuss", "show", "tell", "explain", "demonstrate", "identify", etc, that is what you must do.

No one may add or subtract from the official requirements found in Scouts BSA Requirements (Pub.# 33216) and/or on Scouting.org.

The requirements were last issued or revised in 2023 • This workbook was updated in July 2023.

Scout's Name: _____ Unit: _____

Counselor's Name: _____ Phone No.: _____ Email: _____

Please submit errors, omissions, comments or suggestions about this **workbook** to: Workbooks@USScouts.Org
Comments or suggestions for changes to the **requirements** for the **merit badge** should be sent to: Merit.Badge@Scouting.Org

Note: *The bicycle used for fulfilling these requirements must have all required safety features and must be registered as required by your local traffic laws.*

- 1. Do the following:
 - a. Explain to your counselor the most likely hazards you may encounter while participating in cycling activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

Explain to your counselor how to ride predictability, be conspicuous, think ahead, and ride ready.

Workbook © Copyright 2023 - U.S. Scouting Service Project, Inc. - All Rights Reserved
Requirements © Copyright, Boy Scouts of America (Used with permission.)

This workbook may be reproduced and used locally by Scouts and Scouters for purposes consistent with the programs of the Boy Scouts of America (BSA), the World Organization of the Scout Movement (WOSM) or other Scouting and Guiding Organizations. However it may NOT be used or reproduced for electronic redistribution or for commercial or other non-Scouting purposes without the express permission of the U. S. Scouting Service Project, Inc. (USSSP).

- b. Show that you know first aid for injuries or illnesses that could occur while cycling, including cuts, scratches, blisters, sunburn, heat exhaustion, heatstroke, hypothermia, dehydration, insect stings, tick bites, and snakebite.

Cuts:	
Scratches:	
Blisters	
Sunburn:	
Heat Exhaustion:	
Heat Stroke:	
Hypothermia:	
Dehydration:	
Insect stings:	
Tick bites:	
Snakebite:	

- Explain to your counselor why you should be able to identify the poisonous plants and poisonous animals that are found in your area.

- 2. Describe your state and local laws concerning bicycles.

Discuss what is the same and what is different from laws applying to motor vehicles.

Explain where and how you should ride on roads and streets to include lane position, changing lanes, making left and right turns, and riding through intersections.

- 3. Explain the importance of wearing a properly sized and fitted helmet while cycling and of wearing the right clothing for the weather.

Know the BSA Bike Safety Guidelines.

- 4. Using a bicycle safety checklist, clean and adjust a bicycle and present it to your counselor for inspection. Do the following:
 - a. Show points that should be checked regularly to make sure the bicycle is safe to ride.
 - b. Show how to adjust the saddle and handlebars for a proper fit.
 - c. Show how to adjust brakes and gear shifting (derailleurs).
 - d. Show all points that need regular lubrication.
 - e. Show how to repair a flat by removing the tire, replacing or patching the tube, and remounting the tire.
 - f. Show that the bicycle meets local laws
- 5. Demonstrate basic bicycle handling skills to your counselor, to include how to properly mount your bicycle, starting and stopping (to include emergency stops), riding in a straight line, turning, shifting gears, scanning, and signaling
 - properly mount your bicycle,
 - starting and stopping (to include emergency stops),
 - riding in a straight line,
 - turning,
 - shifting gears,
 - scanning, and
 - signaling.

6. Using the BSA buddy system, complete all of the requirements for ONE of the following options: road biking OR mountain biking.*

OPTION A - Road Biking

a. Take a road test with your counselor and demonstrate the following:

- 1. On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left-turn technique used during periods of heavy traffic.
- 2. Properly execute a right turn.
- 3. Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.
- 4. Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.
- 5. Cross railroad tracks properly.

b. Avoiding main highways, take two rides of 10 miles each, two rides of 15 miles each, and two rides of 25 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen on the ride

Ride 1 – 10Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 2 – 10 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 3 – 15 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 4 – 15 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 5 – 25 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 6 – 25 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

- c. After completing requirement b for the road biking option, do ONE of the following:
 - 1. Lay out on a road map a 50-mile trip. Stay away from main highways. Using your map, make this ride in eight hours or less.
 - 2. Participate in an organized bike tour of at least 50 miles. Make this ride in eight hours or less. Afterward, use the tour's cue sheet to make a map of the ride.
- Ride 7 – 50 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

OPTION B - Mountain Biking

a. Demonstrate the following mountain bike handling skills to your counselor:

- 1. Neutral position, ready position, bike body separation (side to side, and forward and back), and body positioning for *cornering*.
- 2. Show shifting skills as applicable to climbs and obstacles.
- 3. Show proper technique for riding up (seated, crouched, and standing) and down hill.

b. Take a trail ride with your counselor and demonstrate the following:

- 1. Show proper trail etiquette to hikers and other cyclists, including when to yield the right-of-way.
- 2. Demonstrate how to correctly cross an obstacle by either going over the obstacle on your bike or dismounting your bike and crossing over or around the obstacle.
- 3. Cross rocks, gravel, and roots properly.

c. Describe the rules of trail riding, including how to know when a trail is unsuitable for riding.

d. On trails approved by your counselor, take two rides of 2 miles each, two rides of 5 miles each, and two rides of 8 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen.

Ride 1 – 2 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 2 – 2 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Ride 3 – 5 Miles

Date: _____

Miles: _____

Route:

Most interesting things seen:

Ride 4 – 5 Miles

Date: _____

Miles: _____

Route:

Most interesting things seen:

Ride 5 – 8 Miles

Date: _____

Miles: _____

Route:

Most interesting things seen:

Ride 6 – 8 Miles

Date: _____

Miles: _____

Route:

Most interesting things seen:

- e. After fulfilling the previous requirement, lay out on a trail map a 22-mile trip. You may include multiple trail systems, if needed. Stay away from main highways. Using your map, make this ride in six hours.

Ride 7 – 22 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

When working on merit badges, Scouts and Scouters should be aware of some vital information in the current edition of the *Guide to Advancement* (BSA publication 33088). Important excerpts from that publication can be downloaded from <http://usscouts.org/advance/docs/GTA-Excerpts-meritbadges.pdf>.
You can download a complete copy of the *Guide to Advancement* from <http://www.scouting.org/filestore/pdf/33088.pdf>.

Sample Bicycle Safety Checklist

- Frame - Clean and not bent out of shape. No cracks at Frame Joints.
- Front Fork - Clean and not bent out of shape. No cracks at Fork Joints.
- Headset Bearing - Well lubricated; turns freely with no binding. No perceptible play in the assembly.
- Bottom-Bracket Bearing - Turns freely with not more than barely perceptible play in the bearing.
- Crank Arms - Clean and not bent out of shape. Tightened securely on the Crankset Axle.
- Chainrings - Clean, not worn, and not bent out of shape. Chainring Bolts tightened securely to hold Chainrings to Crankarms.
- Pedals - Bearings well lubricated; turn freely with no play in the bearing. Pedals tightly screwed into Crankarm. Toe Clips functional.
- Fenders - Clean; tightly attached without rattling or rubbing against the Tires.
- Wheels - Run true and round. Wheel nuts tight. Closed and tight quick-releases. Centered in form or frame members.
- Wheel Bearings in hubs - Well lubricated and properly adjusted to move freely with no more than barely perceptible play.
- Spokes - None broken or bent. Tightened to a uniform tension.
- Tires - Good Tread. Valves 0 completely airtight. Properly inflated to recommended pressure.
- Rims - Clean of all oil and grime. Free of dents or kinks.
- Chain - Proper tension, allowing 1/2 inch of play. No stiff links. Clean, lubricated, and wiped of excess lubrication.
- Gearing - Clean and oiled. Three-speed gears adjusted to eliminate all slipping. Front 42a and Rear 4b derailleurs adjusted for proper shifting with Shifters 4c.
- Brakes
 - Coaster - Even braking. Operate within a 20-degree back-pedaling motion.
 - Hand - Even braking. All nuts tight. Front and rear brakes work without binding. Minimum of 3/16 inch of rubber on Brake Pads. Brake pads aligned with rims and contact rims with a minimum of movement of Hand Controls. No squeal when brakes are used.
- Cables - No frayed ends. No broken strands. All taut.
- Handlebars - Tightened securely. Grips not worn; fit snugly, adjusted to comfort of rider, ends plugged, & in line with wheel.
- Saddle - Height, tilt, and fore/aft position adjusted to rider. All adjustments securely tightened. Seatpost not extended beyond maximum mark on post.
- Lights - Front light visible for 500 feet. Generator or battery in good operating condition.
- Rear Red Reflectors/Lights - Visible for 300 feet. Lights/Blinkers functional with generator or batteries.
- Bell or Horn - In good operating condition. All accessories well tightened and securely fastened. No broken frames or fasteners.
- Bike Registration - If required by local law, must be displayed on frame.