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.
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.

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

No one may add or subtract from the official requirements found in Boy Scout Requirements (Pub. 33216 – SKU 637685).
The requirements were last issued or revised in 2013 • This workbook was updated in May 2017.

Scout's Name:_____ Unit: _____

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

http://www.USScouts.Org • http://www.MeritBadge.Org

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.

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☐ 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.

c. 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.

☐ 2. Clean and adjust a bicycle.

☐ Prepare it for inspection using a bicycle safety checklist. (*There is a checklist you may use at the end of this workbook.*)

☐ Be sure the bicycle meets local laws.

☐ 3. Show your bicycle to your counselor for inspection. Point out the adjustments or repairs you have made.

Do the following:

☐ a. Show all points that need oiling regularly.

☐ b. Show points that should be checked regularly to make sure the bicycle is safe to ride.

☐ c. Show how to adjust brakes, seat level and height, and steering tube.

4. Describe how to brake safely with foot brakes and with hand brakes.

Foot brakes:

Hand brakes:

☐ 5. Show how to repair a flat by removing the tire, replacing or patching the tube, and remounting the tire.

☐ 6. Describe your state and local traffic laws for bicycles.

Compare them with motor-vehicle laws.

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

☐ A. Road Biking

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

☐ (1) Properly mount, pedal, and brake, including emergency stops.

☐ (2) 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.

☐ Standard Left Turn

☐ Alternate Left Turn

☐ (3) Properly execute a right turn.

☐ (4) Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.

☐ (5) Show proper curbside and road-edge riding.

☐ Show how to ride safely along a row of parked cars.

☐ (6) 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.

☐ Ride 1 – 10 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Scout's Name: _____

☐ 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:

Scout's Name: _____

☐ Ride 5 – 25 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

Scout's Name: _____

☐ Ride 6 – 25 Miles Date: _____ Miles: _____

Route:

Most interesting things seen:

(c) After completing requirement (2) 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.

☐ 50 Mile Ride Date: _____ Miles: _____ Time: ____:_____

Route:

Most interesting things seen:

☐ (2) Participate in an organized bike tour of at least 50 miles. Make this ride in eight hours. Afterward, use the tour's cue sheet to make a map of the ride.

☐ Bike Tour Date: _____ Miles: _____ Time: ____:_____

☐ B. Mountain Biking

(a) Take a trail ride with your counselor and demonstrate the following:

☐ (1) Properly mount, pedal, and brake, including emergency stops.

☐ (2) Show shifting skills as applicable to climbs and obstacles.

☐ (3) Show proper trail etiquette to hikers and other cyclists, including when to yield the right-of-way.

☐ (4) Show proper technique for riding up and down hills.

☐ (5) 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.

☐ (6) Cross rocks, gravel, and roots properly.

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

(c) 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:

☐ (d) 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.

☐ 22 Mile Trip Date: _____ Miles: _____ Time: _____

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.