



2024 Edition

SCOUTMASTER BUCKY

Railroading Merit Badge

SCOUTS PARTICIPATING IN A SCOUTMASTER BUCKY MERIT BADGE OPPORTUNITY (ONLINE OR IN PERSON), PLEASE CONSIDER ALSO USING THE AMERICAN HERITAGE MERIT BADGE CLASS PREPARATION PAGE FOR CLARIFICATIONS, INSIGHTS, AND EXPECTATIONS.

<https://scoutmasterbucky.com/merit-badges/railroading/class-prep/>

RAILROADING MERIT BADGE WORKBOOK

DO THREE OF THE FOLLOWING (1A, 1B, 1C, and/or 1D) FOR REQUIREMENT 1

REQUIREMENT 1a: Name three types of modern freight trains.

Freight Train #1:

Freight Train #2:

Freight Train #3:

REQUIREMENT 1a: Explain why unit trains are more efficient than mixed freight trains.

Notes:



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REQUIREMENT 1b: Name one Class I or regional railroad.

Class I or regional railroad:

REQUIREMENT 1b: Explain what major cities it (your selected Class I or regional railroad) serves, the locations of major terminals, service facilities and crew change points, and the major commodities it carries.

Major Cities Served:

Locations of Major Terminals:

Service Facilities and Crew Change Points:

Major Commodities Carried:



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REQUIREMENT 1c: Using models or pictures, identify 10 types of railroad freight or passenger cars. Explain the purpose of each type of car.

RAILROAD CAR #1

Name or Type:

Purpose:

RAILROAD CAR #2

Name or Type:

Purpose:

RAILROAD CAR #3

Name or Type:

Purpose:

RAILROAD CAR #4

Name or Type:

Purpose:



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RAILROAD CAR #5

Name or Type:

Purpose:

RAILROAD CAR #6

Name or Type:

Purpose:

RAILROAD CAR #7

Name or Type:

Purpose:

RAILROAD CAR #8

Name or Type:

Purpose:



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RAILROAD CAR #9

Name or Type:

Purpose:

RAILROAD CAR #10

Name or Type:

Purpose:

REQUIREMENT 1d: Explain how a modern diesel or electric locomotive develops power.

Notes:



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REQUIREMENT 1d: Explain the term dynamic braking.

Notes:

REQUIREMENT 1d: Explain the term radial steering trucks.

Notes:

REQUIREMENT 2a: Explain the purpose and formation of Amtrak.

Notes:



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REQUIREMENT 2a: Explain, by the use of a timetable, a plan for making a trip by rail between two cities at least 500 miles apart. List the times of departure and arrival at your destination, the train number and name, and the type of service you want.

Notes:

REQUIREMENT 2b: List and explain the various forms of public/mass transit using rail.

Notes:



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DO ONE OF THE FOLLOWING (3A, 3B, 3C, and/or 3D) FOR REQUIREMENT 3

REQUIREMENT 3a: Name four departments of a railroad company. Describe what each department does.

Railroad Company Department #1:

Purpose:

Railroad Company Department #2:

Purpose:

Railroad Company Department #3:

Purpose:



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Railroad Company Department #4:

Purpose:

REQUIREMENT 3b: Tell about the opportunities in railroading that interest you most and why.

Notes:



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REQUIREMENT 3c: Name four rail support industries. Describe the function of each one.

Rail Support Industry #1:

Function:

Rail Support Industry #2:

Function:

Rail Support Industry #3:

Function:

Rail Support Industry #4:

Function:



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REQUIREMENT 3d: With your parent's and counselor's approval, interview someone employed in the rail industry.

Parent's Name

Phone

Parent's Signature

Date

approved

COUNSELOR APPROVAL: PERHAPS IMPLIED, THIS REQUIREMENT DOES NOT STATE THAT YOU NEED THE COUNSELOR'S APPROVAL AHEAD OF TIME TO PURSUE INTERVIEWING SOMEONE EMPLOYED IN THE RAIL INDUSTRY. PLEASE NOTE, AS WITH ANY REQUIREMENT, ACCEPTANCE IS AT THE DISCRETION AND SATISFACTION OF THE MERIT BADGE COUNSELOR.

Counselor's Name

Phone

Counselor's Signature

Date

approved

Name of person interviewed:

Where employed:

Position or Job Title:

Notes:



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REQUIREMENT 3d: Learn what this person does in railroading.

Notes:

REQUIREMENT 3d: Learn how this person became interested in railroading.

Notes:

REQUIREMENT 3d: Find out what type of schooling and training are required for this position.

Notes:



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REQUIREMENT 4a: Explain the purpose of Operation Lifesaver and its mission.

Notes:

REQUIREMENT 4b: List 9 track basic safety tips to remember when you are around a railroad track.

Track Safety Tip #1:

Track Safety Tip #2:

Track Safety Tip #3:

Track Safety Tip #4:

Track Safety Tip #5:

Track Safety Tip #6:

Track Safety Tip #7:

Track Safety Tip #8:

Track Safety Tip #9:



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REQUIREMENT 4c: List 9 safety considerations that should be followed when walking near a railroad track.

Safety Consideration #1:

Safety Consideration #2:

Safety Consideration #3:

Safety Consideration #4:

Safety Consideration #5:

Safety Consideration #6:

Safety Consideration #7:

Safety Consideration #8:

Safety Consideration #9:



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REQUIREMENT 4d: Tell your counselor what a driver can do to safely operate near tracks.

Notes:

REQUIREMENT 4e: Explain safety precautions when using a light rail or commuter train.

Notes:

REQUIREMENT 5a: Explain the appearance and meaning of passive signs and active signs.

Notes:



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REQUIREMENT 5b: Explain the appearance and meaning of devices at the crossing (flashing red lights — with or without bells, flashing red lights and gates, and cantilever flashing lights).

Notes:

REQUIREMENT 5c: Explain the appearance and meaning of markings on the road (pavement markings and stop bars).

Notes:

REQUIREMENT 5d: Explain the appearance and meaning of signs before the crossing (advance warning sign, advance warning sign for side streets, no train horn sign, and low ground clearance grade crossing sign).

Notes:



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REQUIREMENT 5e: Explain the appearance and meaning of signs along the railroad property (no trespassing sign).

Notes:

REQUIREMENT 5f: Explain the appearance and meaning of signs at the crossing (crossbuck sign, emergency notification system sign, multiple track sign, stop sign, and yield sign).

Notes:

REQUIREMENT 6a: Explain how railroad signals operate.

Notes:



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REQUIREMENT 6a: Show two basic signal types using color or configuration.

Notes:

REQUIREMENT 6b: Explain the meaning of three horn signals.

Horn Signal #1:

Horn Signal #2:

Horn Signal #3:



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REQUIREMENT 6c: Describe a way to signal a train for an emergency stop.

Notes:

REQUIREMENT 6d: Explain the use and function of the EOTD (end-of-train device) used on the last car of most freight trains.

Notes:

REQUIREMENT 6d: Explain the use and function of the FRED (flashing rear end device), used on the last car of most freight trains.

Notes:



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DO ONE OF THE FOLLOWING (7A or 7B) FOR REQUIREMENT 7

Pay close attention to where the class is taking place and deduce which option will be covered, prepare accordingly.

Be sure to bring any work you have done in preparation to share with your merit badge counselor.

REQUIREMENT 7A – MODEL RAILROADING

WITH YOUR PARENT’S AND COUNSELOR’S APPROVAL, DO TWO OF THE FOLLOWING FOR 7A.

REQUIREMENT 7a: With your parent’s and counselor’s approval, do TWO of the following:

Parent’s Name

Phone

Parent’s Signature

Date

approved

COUNSELOR APPROVAL: PERHAPS IMPLIED, THIS REQUIREMENT DOES NOT STATE THAT YOU NEED THE COUNSELOR’S APPROVAL AHEAD OF TIME. PLEASE NOTE, AS WITH ANY REQUIREMENT, ACCEPTANCE IS AT THE DISCRETION AND SATISFACTION OF THE MERIT BADGE COUNSELOR.

Counselor’s Name

Phone

Counselor’s Signature

Date

approved

REQUIREMENT 7a1: Draw a layout of your own model railroad or one that could be built in your home. Design a point-to-point track or loop with different routings. Include one of the following: turnaround or terminal or yard or siding.

Consider using the back side of this page or a separate blank piece of paper for this requirement.

This requirement must be reviewed with your merit badge counselor.

Be sure to bring any work you have done in preparation to share with your merit badge counselor.



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REQUIREMENT 7a2: Build one model railroad car kit or one locomotive kit.

When selecting this requirement component option, remember to bring your completed work to class.

This requirement must be reviewed with your merit badge counselor.

Be sure to bring any work you have done in preparation to share with your merit badge counselor.

REQUIREMENT 7a3: Name the scale of four popular model railroad gauges. Identify the scale of four model cars or locomotives.

When selecting this requirement component option, the identification part will be done at the class.

This requirement must be reviewed with your merit badge counselor.

Scale Type and Notes #1:

Scale Type and Notes #2:

Scale Type and Notes #3:

Scale Type and Notes #4:



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REQUIREMENT 7a4: Locate the website of four model railroad–related manufacturers or magazine publishers. Print information on their products and services and discuss the information with your counselor.

When selecting this requirement component option, be sure to bring your printed out information and be prepared for discussion during the class.

This requirement must be reviewed with your merit badge counselor.

Railroad Website #1:

Railroad Website #2:

Railroad Website #3:

Railroad Website #4:

Notes:



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REQUIREMENT 7a5: Build one railroad structure (from scratch or using a kit), paint and weather the structure, mount it on your layout or diorama, and make the surrounding area on the diorama scenic.

When selecting this requirement component option, remember to bring your completed work to class.

This requirement must be reviewed with your merit badge counselor.

Be sure to bring any work you have done in preparation to share with your merit badge counselor.

REQUIREMENT 7a6: Alone or with others, build a model railroad or modular layout including ballast and scenery. Make electrical connections and operate a train. Describe what you enjoyed most.

When selecting this requirement component option, remember to bring your completed work to class.

This requirement must be reviewed with your merit badge counselor.

Be sure to bring any work you have done in preparation to share with your merit badge counselor.

Notes:



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REQUIREMENT 7a7: Participate in a switching contest on a timesaver layout and record your time.

Notes:

REQUIREMENT 7a8: Explain the difference between powering and controlling a model railroad by using direct current, and powering and controlling a model railroad using digital command control.

Notes:



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REQUIREMENT 7B – RAILFANNING

WITH YOUR PARENT'S AND COUNSELOR'S APPROVAL, DO TWO OF THE FOLLOWING FOR 7B.

Parent's Name _____

Phone _____

Parent's Signature _____

Date _____

approved

COUNSELOR APPROVAL: PERHAPS IMPLIED, THIS REQUIREMENT DOES NOT STATE THAT YOU NEED THE COUNSELOR'S APPROVAL AHEAD OF TIME. PLEASE NOTE, AS WITH ANY REQUIREMENT, ACCEPTANCE IS AT THE DISCRETION AND SATISFACTION OF THE MERIT BADGE COUNSELOR.

Counselor's Name _____

Phone _____

Counselor's Signature _____

Date _____

approved

REQUIREMENT 7b1: Visit a railroad museum, historical display, or a prototype railroad-sponsored public event. With permission, photograph, digitally record, or sketch items of interest. Explain what you saw and describe your photos, sketches, or video.

REQUIREMENT 7b2: Purchase tickets and ride a scenic or historic railroad. Under supervision, photograph the equipment and discuss with your counselor the historic significance of the operation.

REQUIREMENT 7b3: Locate the website of four rail historical groups, then find information on the history of the rail preservation operations and purpose of each group. Talk with a member of one of the groups and find out how you might help.

REQUIREMENT 7b4: Plan a trip by rail between two points. Obtain a schedule and explain when the train should arrive at two intermediate points. Purchase the tickets and make the trip. Explain to your counselor what you saw.

