



RAILROADING MERIT BADGE WORK SHEET (BYU/UVU PowWow)

Scout's Name

Instructor's Name

Scout's Address

City

State

ZIP

Instructions

- 1) The Scout is to review the merit badge book before the first week of PowWow.
- 2) Bring this work sheet, paper, and pencil or pen each week.

Requirement Instructions*

- 1) Requirement 1 will be covered and should be passed off during the two sessions of PowWow.
- 2) Requirement 2 will be covered and should be passed off during the two sessions of PowWow.
- 3) Requirement 3 must be completed as **homework** before or in the time between the two sessions of PowWow.
- 4) Requirement 4 will be covered and should be passed off during the two sessions of PowWow.
- 5) Requirement 5 will be covered and should be passed off during the two sessions of PowWow.
- 6) Requirement 6 will be covered and should be passed off during the two sessions of PowWow.
- 7) Requirement 7 will be covered and should be passed off during the two sessions of PowWow.
- 8) Requirement 8 must be completed as **homework** in the time between the two sessions of PowWow.

*All requirements may be subject to change by the merit badge counselor based on time constraints at the PowWow session. Please listen to all instructions given by the instructor to be aware of any changes.

Requirement 1

Initial

You have been given four options for this requirement. Select and complete THREE of them.

Option 1:

Name three types of modern freight trains.

- 1.
- 2.
- 3.

Why are unit trains more efficient than mixed freight trains?

Option 2:

Name one Class I or regional railroad.

What major cities does this railroad serve?

What are the major commodities it carries?

Option 3:

Using models or pictures, list 10 types of railroad freight or passenger cars and explain the purpose of each type of car.

- | | |
|----------|----------|
| 1. Car: | Purpose: |
| 2. Car: | Purpose: |
| 3. Car: | Purpose: |
| 4. Car: | Purpose: |
| 5. Car: | Purpose: |
| 6. Car: | Purpose: |
| 7. Car: | Purpose: |
| 8. Car: | Purpose: |
| 9. Car: | Purpose: |
| 10. Car: | Purpose: |

Option 4:

How does a modern diesel or electric locomotive develop power?

Define “*dynamic braking.*”

Define “*radical steering trucks.*”

Requirement 2

Initial

a. What is the purpose of Amtrak?

How is Amtrak formed?

On another piece of paper, create a timetable that includes a plan for a trip made by rail between two cities. The cities must be at least 500 miles apart. List the times of departure and arrival at your destination, the train number, and the type of service you want. Show the attachment to your counselor.

b. List the various forms of public/mass transit using rail as the fixed guide path.

Requirement 3

Initial

Do ONE of the following:

A. Name four departments of a railroad company and describe what each department does.

- 1.
- 2.
- 3.
- 4.

B. What railroading opportunities interest you the most?

C. Name four rail support industries and describe the function of each one.

- 1.
- 2.
- 3.
- 4.

D. With your parent's approval, interview someone employed in the rail industry. What does this person do?

How did this person become interested in railroading?

What type of school and training are required for this position?

Requirement 4

Initial

Explain the purpose of Operation Lifesaver and its mission.

Requirement 5

Initial

You have been given seven options for this requirement. Select and complete THREE of them.

Option 1:

List five safety precautions that help make trains safer for workers and passengers.

- 1.
- 2.
- 3.
- 4.
- 5.

Option 2:

Explain to your counselor why railroad rights-of-way are important for safety.

Option 3:

List 10 safety tips to remember when you are near a railroad track.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Option 4:

What are the guidelines for conduct that should be followed when you are near or on railroad property? Specifically explain the dangers of trespassing on railroad property.

Option 5:

What can an automobile driver do to safely operate a car at grade crossings?

List three things an automobile driver should never do at a grade crossing.

- 1.
- 2.
- 3.

Option 6:

How would you report a malfunction of grade crossing warning devices?

Option 7:

List safety precautions a pedestrian should follow at a public crossing.

Requirement 6

Initial

Explain the appearance and meaning of the following warning signs and devices.

Advanced Warning Sign:

Pavement Markings:

Cross bucks:

Flashing Red Lights:

Crossing Gates:

Requirement 7

Initial

a. Draw two basic signal types using color and configuration.

b. What does a three-whistle signal mean?

c. What is the proper way to signal a train for an emergency stop?

d. What is the function of the EOTD (end-of-train device)?

What is the function of the FRED (flashing rear end device)?

Requirement 8

Initial

Select and complete ONE of the following special interest areas A or B for this requirement.

A. Model Railroading (select and complete TWO of the following options)

Option 1:

On another piece of paper, draw a layout of your own model railroad. Design a point-to-point track or loop with different routings. It must include one of the following: turnaround, terminal, yard, or siding. Show your work to your counselor.

Option 2:

Build one model railroad car kit or one locomotive kit.

Option 3:

Name the scale of four popular model railroad gauges.

- 1.
- 2.
- 3.
- 4.

Option 4:

Using the Internet, print information of four model railroad-related manufacturers or magazine publishers' products/services. Discuss the information with your counselor.

Option 5:

Build one railroad structure. Paint and weather the structure. Then mount it on your layout or diorama and make the surrounding area on a diorama scenic.

Option 6:

Alone or with a group, build a model railroad or modular layout including ballast and scenery. Make electrical connections and operate a train. Describe here what you enjoyed the most.

Option 7:

Participate in a switching contest on a timesaver layout and record your time.

B. Railfanning (select and complete TWO of the following options)

Option 1:

Visit a railroad museum, historical display, or a prototype railroad-sponsored public event. With permission, photograph, videotape, or sketch items of interest. Explain what you saw and describe your photos, sketched, or videotape.

Option 2:

Purchase tickets and ride a scenic or historic railroad. With permission, photograph the equipment and discuss with your counselor the historical significance of the operation.

Option 3:

Find four rail historical groups on the Internet. Then find information on the history of the rail preservation operations and the purpose of each group. Talk with a member of one of the groups and find out how you might help.

Option 4:

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.

Merit badge work sheets will not be accepted at the Council Office in place of the official Merit Badge Application Card. Those who do not complete all the requirements should take their partially completed merit badge work sheet and their official application card to their local merit badge counselors for completion.