

# Boy Scout Railroading Badge

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_



**Welcome** to the Colorado Railroad Museum!

The Museum is a 15-acre railyard, home to over 100 historic railcars. Explore the Museum to find steam and diesel locomotives, cabooses, passenger cars, a roundhouse and turntable, depot museum with exhibits, and HO and Garden model railroads.



**Earn a railroading badge.** Complete the worksheet and activities and then turn it in to your badge counselor to earn your badge! Some of the activities are done here at the museum and some will need to be done with additional research at home.

## Part One: Museum-Work -Complete these tasks at the Colorado Railroad Museum

### Railcars

Check off each of the railcar you find at the Museum. Write the name of each car below the picture:



\_\_\_\_\_

protects cargo from weather



\_\_\_\_\_

carries liquids or gasses



\_\_\_\_\_

keeps cargo cold



\_\_\_\_\_

historic car that was an office and living quarters for conductor and brakeman and a spot to keep an eye on the train



\_\_\_\_\_

carries large items on a flat bed



\_\_\_\_\_

historic car that carried animals



\_\_\_\_\_

a passenger car where people eat



\_\_\_\_\_

carries passengers



\_\_\_\_\_

a passenger car where people can enjoy the view from the windows

## Museum Scavenger Hunt

Check off each of these that you find at the museum:

- ☐ Go inside D&RGW Kitchen Car No. 4255. What do you see inside?
- ☐ Find a little “bobber” caboose. (Hint, if you don’t know what a bobber is, check out the “Spike’s Top Picks” guide available for free at the museum .
- ☐ Find the turntable and roundhouse.
- ☐ Find the water tower. This tank can hold 10,000 gallons of water. Explain why some locomotives need water.
- ☐ Spot a coal pile. Explain why some locomotives need coal.
- ☐ Go inside C&S Railway Post Office car No. 254. What are the workers doing inside?
- ☐ Go inside RGS No. 01789, the oldest freight car in Colorado. It was turned into a bunkhouse car for railroad crews to sleep. How would it feel to live inside of this bunkhouse with 7 other people?

## Locomotives

Find these two locomotives at the museum. Draw a line from the locomotive to the type of engine it is:



**diesel-electric locomotive**

**steam locomotive**



Fill in the blanks:

A \_\_\_\_\_ locomotive works by burning liquid fuel oil in an internal-combustion engine. The engine’s crank shaft turns an electric generator, which sends electricity to traction motors on the trucks of the locomotive. A gear on the traction motor shaft engages a gear on the axle and moves the locomotive wheels

A \_\_\_\_\_ locomotive works by burning coal, wood or oil to heat water into steam. The pressurized steam is fed to cylinders with pistons in them, causing the pistons to move back and forth. The pistons are connected via cranks to the drive wheels which propels the locomotive.

What did you see?

Draw a picture of, or describe your favorite thing that you saw at the Museum in the box below:

## Model Railroading

Visit the Denver HO Club model railroad layout in the Museum basement and the Denver Garden Railway layout outside. Model railroads are built in different sizes (called “scales”). Identify the scale of the two layouts that are at the Museum on the picture below:



## Railroad Safety

Find a rule about railroad safety on a sign at the Museum and write it down in the box below:

## Railroad Workers

Match the worker to the job (Hint: Look for a large sign at the Museum):

<u>Worker</u>	<u>Job</u>
Brakeman	In charge of the train, its operation and the crew's safety
Conductor	On a steam locomotive, this worker was in charge of maintaining water level and keeping the fire going
Fireman	The worker who ran the railway station, was the ticket agent, baggage handler and telegraph operator
Station Agent	A dangerous , entry-level job that once required manually turning a brake wheel

## Say Cheese!

Take a picture of yourself at the Colorado Railroad Museum and attach it to the space below.

## Part Two: Homework -Complete these at home

### Railroad Safety

Learn about Operation Lifesaver at [www.oli.org](http://www.oli.org). Complete the questions below:

1. How often is a person or vehicle hit by a train?
  - A. Every 3 days
  - B. Every 3 years
  - C. Every 3 hours
  - D. Once a week
2. Read the “Real Story” about Shawn Potter. What was Shawn doing when he lost his life?
  - A. Train hopping
  - B. Playing “chicken” on the tracks
  - C. Trying to race his car across the tracks before the train
  - D. Riding his bike on the tracks
3. Watch the video, “Dumb Move”. True or False: A freight train travelling at 55 miles per hour takes a mile to stop.

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

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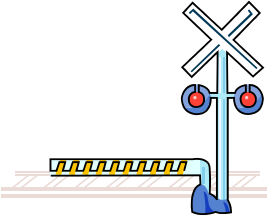

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Fill out the chart to explain what you should do at each of these railroad warning signs.

SIGN	WHAT IS THIS SIGN?	WHAT SHOULD YOU DO AT ONE?
	This sign means you are coming to a railroad crossing.	
	Some railroad crossings have flashing lights and a gate that closes when the train is coming.	
	Some crossings have this sign with flashing lights but no gates. If the lights are flashing a train is coming.	

## Amtrak

Research and answer the questions below.

1. What is Amtrak?
2. What year did Amtrak begin service?
3. Why was Amtrak formed?
4. Plan a trip on Amtrak between two cities, at least 500 miles apart. Describe your trip itinerary below. Include the times of departure and arrival, train number and name and the type of service that you want.



# Railroad Vocabulary

**Write the definition for these railroad words:**

1. Unit trains:
2. Mixed freight:
3. Class 1 railroads:
4. Regional railroads:
5. Ten types of freight or passenger cars:
6. Dynamic braking:
7. Radial steering trucks:
8. Timetable:
9. Low friction guide way:
10. Four departments of a railroad company:
11. Right-of-way:
12. Grade crossing:
13. Crossbuck:
14. EOTD:
15. FRED:

## Choose your own Railroad Adventure!

Talk to your parent/guardian, choose and complete one adventure below (taken from the Boy Scouts, Railroading Badge requirements). If you need suggestions, check out the brochure display at the Museum or feel free to ask Museum Staff for suggestions.

1. 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.
2. Locate the website of four rail historic groups, then find information on the history of the rail preservation operations and purpose of each group. Talk with a member of the group and find out how you might help.
3. Plan a trip by rail between two points. Obtain a schedule and explain when the train should arrive at two intermediate points. Purchase tickets and make the trip.

Describe your adventure in the space below (add pages, if necessary, for pictures and additional information):

**I completed all of the requirements for my Railroading Merit Badge!**

Badge Counselor

Signature: \_\_\_\_\_ Date: \_\_\_\_\_