



Girl Scouts®

Girl Scouts – North Carolina Coastal Pines
P.O. Box 91649
Raleigh, NC 27675-1649
(919) 782-3021 / (800) 284-4475



Our Own Council's Badge



RAILROADING

*Special thanks from the Program Department to
Barbara and Robert Baxter of Troop #511 who contributed
their time and energy in the development of this
Our Own Council's Railroading badge.*

Girl Scouts – North Carolina Coastal Pines
Our Own Council’s
“Railroading” Badge

Description: As a major means of transportation, the railroads have continued to transport goods across the country. To earn the Railroading badge, complete 6 the following requirements. You are required to do activity #4.

1. Learn about passenger trains and where they run. Amtrak services many states in America with long distance trains. In addition, many larger cities have light rail passenger service called subways. These are both examples of ways that you can ride on a train. Find out where the nearest passenger rail station is to you. Obtain a schedule and learn how to read it. Read the information and find out where the trains travel to (destination) and find out about the stops (stations) along the travel route. How often does the train go through the station you are researching?

If there are no train stations near where you live, go to one of the Web sites listed below and search for a train schedule. Here are a few suggestions:

Amtrak	http://www.amtrak.com/
Metro (Washington DC)	http://www.wmata.com/
Cal Train (California)	http://www.caltrain.com/caltrain/

2. Ride on a Passenger train (Rail, light rail, or subway). Plan a short train trip either using a train schedule you have from a local train station or one you researched from one of the Web sites listed. Write out your schedule. Where would you get on the train? When would you leave? How long will the train ride be to your destination? How many stops would there be during your trip? Plan your return trip.

When purchasing train tickets, make sure that your Girl Scout troop leader or another responsible adult in your troop purchases the tickets. If your troop goes to the station to purchase the tickets from a sales person, see if the sales person has some time to tell you about their position. You may want to ask the sales person if they have other duties besides selling tickets. What else do they do as part of their job? How long do they work each day? What type of training did they receive in order to perform their job?

Before you get on the train, what type of safety precautions should you take? Where can you stand?

When on the train, see if you can interview the attendant and/or conductor. Ask them about their job. What else do they do? How long do they work? What type of training do they need?

3. Learn about freight trains. Almost all goods (merchandise, supplies, materials, etc.) sold in this country will travel on trains. The type of goods carried will have a large effect on the type of rail car used to transport the goods. For example, perishable goods (items that will spoil if not refrigerated) will be carried on refrigerated cars. Grain (wheat, corn, barley, etc.) will be carried on hopper cars. Liquid goods (fuel oil, chemicals, milk) are carried in tanker cars. There are also gondola cars (metal scrap), coal (coal), boxcars (general merchandise), tri-level auto cars (automobiles), flat cars (varied), piggy back cars (trailer trucks), and container cars (ship/truck containers) used by railroads. Find out what types of cars there are on a freight railroad. Cut out pictures from a magazine or draw a picture of three different types of cars found on a freight train. Describe what types of cargo each carries. How much cargo can it carry?

Learn how a diesel train engine works. How does it take diesel gas and change it into motion. How much horsepower does a train engine have? How heavy is a diesel train engine?

4. Safety. Trains are very heavy and as a result take a long time to stop. In addition, their large size can deceive people and make them appear to be traveling slower than they actually are. Accidents with trains typically happen with automobiles where roads cross railroad tracks (called a grade crossing) or with people while walking on tracks.

For automobiles, grade crossings are marked with signs and/or crossing guards. Crossing guards could be lighted with flashing lights or additionally have arms that come down. The type of crossing guard will depend on the amount of car traffic, speed of car traffic, and speed of train traffic. Lightly traveled grade crossing could simply have a sign indicating the railroad tracks.

Key Safety issues to know or understand:

When a road crosses a train track, which vehicle has the right of way, the car or the train?

There are different types of grade crossing signals. Can you find some in your area or a picture in a book/magazine? How are they different? Why do you think they are different?

How long does it take a train to stop if it is going 50mph? Who owns the tracks and land that tracks are on? Are you allowed on them?

5. Visit a local freight yard or railroad line. (Caution! Railroad tracks can be very dangerous places. You should never walk on tracks or go on railroad property without permission from the railroad company.) Watch as trains go by or come in/out of the railroad yard or along the track.

How many engines are on the train? Are they all in the front? How many freight cars are in the train? What different kinds of freight cars are there in the train?

6. Model Trains. Go to a hobby shop, look through a model train magazine, or go to an online model train store. How many different “scales” are there for model trains? What is the largest? What is the smallest?

Plan a small model railroad. What engines would you buy? How much track would you need? How much would it all cost?

7. Build a simple train model. Using things (cardboard boxes, old Girl Scout cookie boxes, scrap wood, etc) from around your house, build a model of a train. See if you can get each person in your troop to build two cars or an engine. Decide how big each car or engine should be. Make sure the gage (distance between each wheel) is the same for each car. Put the train together at a troop meeting.

8. The History of Railroads. Railroads have had a large impact on American and world history. Research a famous train, railroad, railroad event, or railroad person. Write a short paragraph or perform a short skit on your subject. How was your subject important and how did it change history? Discuss this with the other girls in your troop.

9. Community Service. Take what you learned about train safety and teach it to younger children. Make up posters and have your troop review this safety information with a Girl Scout Brownie troop or class at your school.

- or -

Contact your local train station. See if they will allow your troop to do a beautification project such as planting flowers around the train station.

Operation Lifesaver activities:

The activities include

Word Crambo – A discussion of the signs you will see at a grade crossing.

Highway-Rail Grade Crossing Safety Tips for Kids – key points on safety

Can You Make the Grade? – A fill in the blank exercise

General Rail Safety Information for Educators – Information you (troop leader) may find helpful.

Know Your Rail Signs & Signals – Additional information about signs you may see close to railroad tracks.

Pedestrian Safety – Safety information for Pedestrians.

Word Crambo

Public highway-rail grade crossings are places where the roadway crosses the train tracks. They are highway-rail intersections. This activity is designed to familiarize you with safety warning devices. Safety warning devices advise you the road crosses train tracks. They alert you to the possible presence of a train. Below are several warning signs. Your job is to click on one of the warning safety devices and in a split second the explanation will pop up right in front of your eyes.



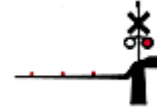
Crossbuck Signs



Advance Warning Signs



Flashing Red Light Signals



Gates

Crossbuck Signs

Crossbuck signs are found at highway-rail intersections. They are yield signs. You are legally required to yield the right of way to trains. Slow down, look, and listen for the train, and stop if a train approaches. When the road crosses over more than one set of tracks, a sign below the Crossbuck indicates the number of tracks.

Advance Warning Signs

The Advance Warning sign is usually the first sign you see when approaching a highway-rail intersection. It is located a sufficient distance ahead to allow a driver to stop before reaching the crossing. The Advance Warning sign advises you to slow down, look, and listen for the train, and be prepared to stop if a train is approaching.

Flashing Red Light Signals

At many highway-rail grade crossings, the Crossbuck sign has flashing red lights and bells. When the lights begin to flash, stop! A train is approaching. You are legally required to yield the right of way to the train. If there is more than one track, make sure all tracks are clear before crossing.

Gates

Many crossings have gates with flashing red lights and bells. Stop when the lights begin to flash and before the gate lowers across your road lane. Remain stopped until the gates go up and the lights have stopped flashing. Proceed when it is safe.

Highway-Rail Grade Crossing

Safety Tips for Kids

- Trying to beat a train is just not smart. If you lose, you'll be losing more than just a race.
- Loud music and headphones can keep you from hearing a train.
- About 90% of all train related deaths result from trespassing and highway-rail crossing collisions.
- A freight train with 100 cars traveling at 55 mph will require at least 1 mile to complete an emergency stop.
- Trains can approach without your knowledge.
- Remember, environmental conditions can muffle sounds, bells, whistles, and other train noises.
- The primary reason to stay off of railroad property is YOUR safety.
- Those who play, walk, or ride near railroad tracks can be injured by flying debris.
- No matter if you are in a vehicle, on a bicycle, or on foot, you are required to obey all traffic laws.
- Going around lowered gates is illegal and dangerous.
- Trains always have the right-of-way.
- In the United States, there are more than 260,000 public and private highway-rail grade crossings.

Can You Make the Grade?

Hi Kids, can you make the grade? See how many you can get right. Below are some sentences that have missing words. Read each sentence and see if you can come up with the correct missing word. I will help you and give you a bunch of words to choose from. They will be listed in RED above the sentences in little boxes. If you wish to, just Click on your PRINT button on your computer and you can work on this educational activity right at home on a piece of paper.

STREET	YIELD	TRESPASSER	TRACKS	GATES
COLLISION	SAFETY	PEDESTRIAN	STOP	MAINLINE
CROSSBUCKS	BELL	BOX CAR	VEHICLE	DOWN
BALLAST	GOOD	TANK CAR	LUCK	ENGINEER

Sentences With Missing Words

1. A person on foot is called a _____ .	10. Loud ring or sound to provide warning, usually used with a flashing red light signal is called a _____ .
2. No Trespassing warnings are for your _____ .	11. A device for carrying or transporting persons or things is called a _____ .
3. A traffic way for vehicles is called a _____ .	12. White X-shaped signs with the words RAILROAD CROSSING in black are called _____ .
4. Principal line of a railroad is called a _____ .	13. You should not go around gates when they are _____ .
5. Flashing red lights mean _____ .	14. Person who operates the locomotive is called an _____ .
6. Rock or gravel placed between and below railroad ties is called _____ .	15. A person whose presence on railroad property is prohibited by law is called a _____ .
7. A fully enclosed railroad freight car is a _____ .	16. Arms which extend across the lanes of a highway are called _____ .
8. An event occurring on a traffic way that produces injury is called a _____ .	17. A special railroad car for carrying liquids and gases in bulk is called a _____ .
9. You should always _____ to trains.	18. A pair of parallel metal rails, on which trains run are called _____ .

General Rail Safety Information for Educators


- Freight trains do not travel on a predictable schedule; schedules for passenger trains change. ***Always*** expect a train at every highway-rail intersection.
- Train tracks are private property, no matter which railroad owns them. Trains have the right of way ***100%*** of the time — over ambulances, fire engines, cars, the police, and pedestrians.
- If there are rails on the railroad ties, assume that the track is in use, even if there are weeds or the track looks "rusty".
- A typical locomotive weighs approximately 400,000 pounds or 200 tons. When 100 railcars are added to the locomotive, the train can weigh approximately 6,000 tons. The weight ratio of an automobile to a train is proportional to a soda can and an automobile.
- A train may extend three feet or more outside the steel rail, which makes the safety zone for pedestrians well beyond the rails themselves.
- Trains cannot stop quickly. It is a simple law of physics: the huge weight and size of the train and the speed of the train dictate how quickly it can stop under ideal conditions. A 100-car freight train traveling at 55 miles per hour will need more than a mile to stop — that's approximately 18 football fields — once the train is set into emergency braking.
- There are 200,000 miles of railroad tracks in the United States.
- Trains can move in either direction at any time. Trains are sometimes pushed by locomotives instead of being pulled. This is especially true in commuter and light rail passenger service.
- Modern trains are quieter than ever, with no telltale "clackety-clack". Also, an approaching train will always be closer and moving faster than you think.
 - Cross tracks **ONLY** at designated pedestrian or roadway crossings. Observe and obey all warning signs and signals.
 - Never walk down a train track; it's illegal and it's dangerous. By the time a locomotive engineer can see a trespasser or a vehicle on the tracks, it is too late. The train cannot stop quickly enough to avoid a collision.
 - Remember: Rail and recreation do not mix!


Know Your Rail Signs & Signals

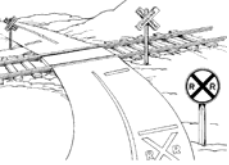
There are both active and passive warning devices that are widely used. Passive signs and active traffic control devices are installed along the roads near the railroad tracks to regulate, warn, or guide traffic. They alert drivers to the presence of railroad tracks and to the possibility of an approaching train. These signs and devices also provide a safety message and remind the driver of the laws regarding highway-rail grade crossings. What follows is a list of various signs and devices that you will see in connection with highway-rail grade crossings.

Passive Signs IN ADVANCE of Railroad Crossings

These are non-electric signs that warn the motorist that the road ahead crosses the railroad tracks.

1.  **Yellow Circular Advance Warning** sign warns drivers that the road crosses railroad tracks ahead. It reminds the driver to slow down, look, and listen for a train and be prepared to stop if a train is approaching.

2.  **Pavement Markings** on paved roads near the **yellow Circular Advance Warning** sign also alert drivers that the road crosses railroad tracks ahead.

3.  A **Stop Line** painted across the lane on paved roads identifies the safe place to stop and look for an approaching train. On **gravel roads there are no Pavement Markings or Stop Lines**, and the driver must **stop no closer than 15 feet**. The **yellow Diamond-Shaped Parallel Track sign** identifies highway-rail intersections that appear immediately after making either a right or a left turn.

4.



The yellow **Diamond-Shaped Parallel Track** sign identifies highway-rail intersections that appear immediately after making either a right or a left turn.

Passive Signs AT Railroad Crossings

1.



The **Crossbuck** sign is the **most common sign at public highway-rail intersections**. It has two crossed white boards with the words RAILROAD CROSSING. It marks the crossing and should be considered the same as a YIELD sign. **If there is more than one track, a sign below the Crossbuck indicates the number of tracks present.** After one train has passed, look and listen for another train coming from **either** direction. Take extra care at "passive" crossings (marked only with a Crossbuck). **Always expect a train!**

2.



The **STOP** and **YIELD** signs mean the same as they do at highway intersections. A driver must always stop at the **STOP** sign in advance of the railroad tracks. **Every driver must YIELD the right of way to a train.**


The **DO NOT STOP ON TRACKS** sign reminds the driver not to stop on the railroad tracks **for any reason.**


NO TRESPASSING Signs

1.

At bridges, tunnels, trestle, railroad rights-of-way, and railroad yards, you will see large **NO TRESPASSING** signs. This means **YOU**. If you attempt to ride an ATV or a snowmobile, or hike on the tracks, a bridge, or a trestle, or even walk near the tracks, you can be arrested and fined. But most of all it is dangerous because you never know when a train may be approaching.

Active Devices AT Railroad Crossings

1.  **Flashing Red Lights — with or without bells — warn of an approaching train.** When the red lights are flashing, a train is approaching. Stop and wait for the train to pass, then proceed when it is clearly safe to do so.

2.  **Flashing Red Lights — with bells and gates – are used to close the road when a train approaches. It is illegal to go around the gates.** Going around the gates makes the driver **legally liable** for any deaths, injuries, or damage to property if a collision occurs.

Why aren't there gates at all crossings?

Some crossings have very light vehicular traffic and trains may only pass on that corridor one or two times a week. At such crossings, it may not be cost effective to install and maintain gates or lights. Decisions regarding the appropriate type of warning devices are made by the state highway officials. Gates do not prevent crashes, people do. Statistics show that approximately half of all highway-rail grade crossing incidents occur where gates and flashing lights or some active warning device is present and operational.

Who is responsible for grade crossing signals?

Because the grade crossing is where two modes of transportation intersect, the railroad and the state highway-local street agencies share in the installation and maintenance of the signals. However, drivers and pedestrians have the responsibility for adhering to the warnings the signals provide. Any signal ignored is as useless as no signal at all.

Pedestrian Safety

- Railroad tracks, trestles, yards, and equipment are private property and trespassers are subject to arrest and fine.
- Cross tracks **ONLY** at designated pedestrian or roadway crossings.
- It can take a mile or more to stop a train, so a locomotive engineer who suddenly spots you ahead has little chance to miss you. Railroad property is private property. For your safety, it is illegal to be there unless you are at a designated public crossing.
- Trains overhang the tracks by at least three feet in both directions and loose straps hanging from rail cars may extend even further. If you are in the right-of-way next to the tracks, you can be hit by the train.
- The only safe place to cross is at a designated public crossing with a crossbuck, flashing red lights, or a gate. If you cross at any other place, you are trespassing and can be ticketed or fined.
- Do not cross the tracks immediately after a train passes. A second train might be blocked by the first. Trains can come from either direction. Wait until you can see clearly around the first train in both directions.
- Flashing red lights signal that a train is approaching from either direction. You can be fined for failure to obey these signals. Never walk around or behind lowered gates at a crossing. Stay Alive! **DO NOT** cross the tracks until the lights have stopped flashing and it is safe to do so.
- If you are in a rail yard uninvited, you are trespassing and subject to criminal prosecution. The worst penalty is death.
- **DO NOT** hunt, fish, or bungee jump from railroad trestles. There is only enough clearance on the tracks for a train to pass. Trestles are not meant to be sidewalks or pedestrian bridges!
- **DO NOT** attempt to hop aboard railroad equipment at any time. A slip of the foot can cost you a limb or your life.
- Be aware that trains do not follow set schedules. Any Time is Train Time!
- Do not walk, run, cycle, or operate all terrain vehicles (ATVs) on railroad tracks or rights-of-way or through tunnels.
 - Cross tracks **ONLY** at designated pedestrian or roadway crossings. Observe and obey all warning signs and signals.
 - Never walk down a train track; it's illegal and it's dangerous. By the time a locomotive engineer can see a trespasser or a vehicle on the tracks, it is too late. The train cannot stop quickly enough to avoid a collision.
 - Remember: Rail and recreation do not mix!

ANSWER SHEET

Can You Make the Grade?

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Sentences With Missing Words

1. A person on foot is called a <u>PEDESTRIAN</u>	10. Loud ring or sound to provide warning, usually used with a flashing red light signal is called a <u>BELL</u>
2. No Trespassing warnings are for your <u>SAFETY</u>	11. A device for carrying or transporting persons or things is called a <u>VEHICLE</u>
3. A traffic way for vehicles is called a <u>STREET</u>	12. White X-shaped signs with the words RAILROAD CROSSING in black are called <u>CROSSBUCKS</u>
4. Principal line of a railroad is called a <u>MAINLINE</u>	13. You should not go around gates when they are <u>DOWN</u>
5. Flashing red lights mean <u>STOP</u>	14. Person who operates the locomotive is called an <u>ENGINEER</u>
6. Rock or gravel placed between and below railroad ties is called <u>BALLAST</u>	15. A person whose presence on railroad property is prohibited by law is called a <u>TRESPASSER</u>
7. A fully enclosed railroad freight car is a <u>BOX CAR</u>	16. Arms which extend across the lanes of a highway are called <u>GATES</u>
8. An event occurring on a traffic way that produces injury is called a <u>COLLISION</u>	17. A special railroad car for carrying liquids and gases in bulk is called a <u>TANK CAR</u>
9. You should always <u>YIELD</u> to trains.	18. A pair of parallel metal rails, on which trains run are called <u>TRACKS</u>

