

Railroading Merit Badge Worksheet

Name _____ Unit _____

All Items MUST be completed

Requirement 1 A

What is the definition of the term **scale** in model railroading? _____

What is the definition of the term **gauge**? _____

In model railroading, what are the corresponding proportions for each model scale, and what is the length of one foot in each scale?

Proportion	Model Scale	Scale foot
1/32	N	1/4 inch = 1 ft
1/87	G	2mm = 1 ft
1/48	HO	3/8 inch = 1 ft
1/160	O	3.5mm = 1 ft

Draw lines to connect correct values

Give a brief description of the correct way to clean and lubricate model train equipment:

Track: _____

Engine _____

Rolling Stock _____

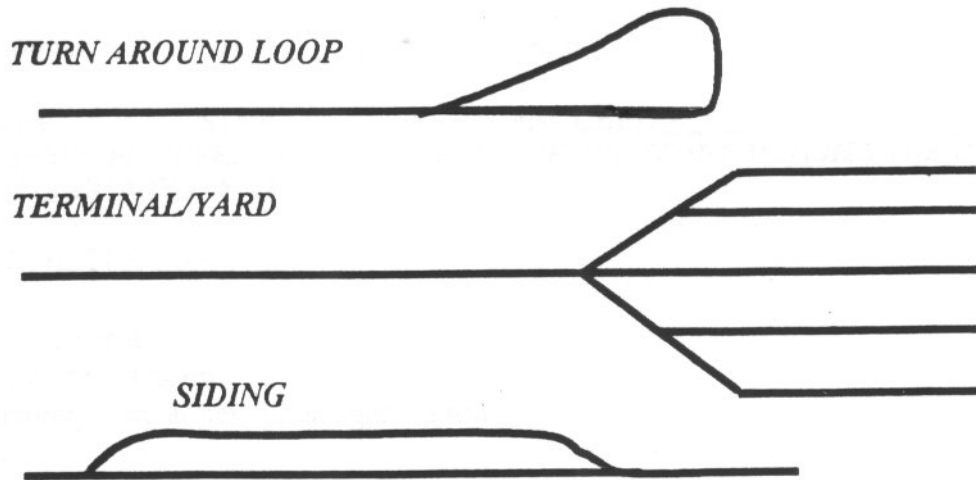
Railroading Merit Badge Worksheet

Requirement 1 B:

Draw **to scale** the layout of your own model railroad or one that could be built in your home. Draw your train layout on the graph paper supplied. Make sure your plan includes the following:

___ A point-to-point or loop with different routings.

___ A turnaround ___ A terminal OR ___ A yard and a siding



Draw your train layout on the graph paper supplied at back of worksheet:

Requirement 2 A

Explain how a **real electric** locomotive develops power:

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Explain how a **real diesel** locomotive develops power:

Requirement 2 B

List six different types of railroad cars and what they are capable of carrying.

Name of Car

What can this type of car carry?

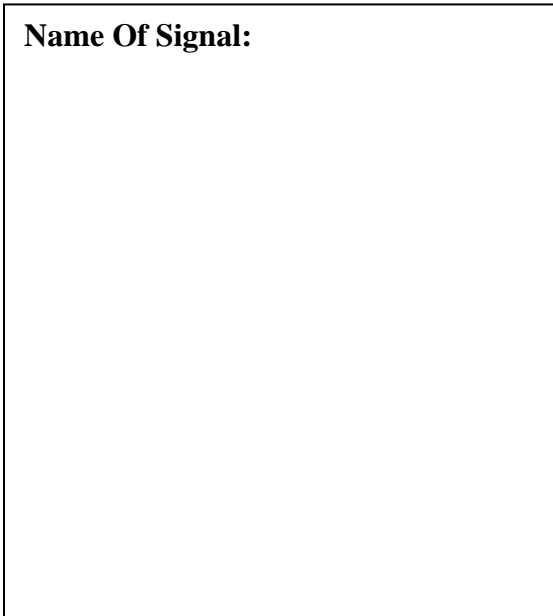
_____	_____
_____	_____
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_____	_____
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_____	_____

Railroading Merit Badge Worksheet

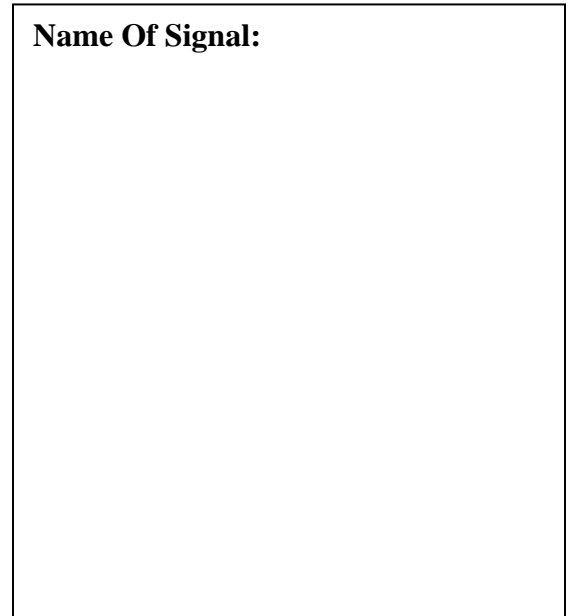
Requirement 2 C

In the spaces below draw two basic signal devices (with their names) that use either color or configuration:

Name Of Signal:



Name Of Signal:



Explain the meaning of the following whistle signals:

0 is a short engine whistle or horn

-- is a long engine whistle or horn

0 _____

-- 0 0 0 _____

-- -- 0 -- _____

-- -- _____

0 0 _____

Describe an emergency way to signal a train to stop:

Railroading Merit Badge Worksheet

Requirement 3 A

Name four departments of a railroad company and describe what each does:

Department: _____ Description: _____

Department: _____ Description: _____

Department: _____ Description: _____

Department: _____ Description: _____

Railroading Merit Badge Worksheet

Requirement 4 A

Explain six rules of safety to use aboard trains; on platforms; at crossings; and around bridges, yards, and tunnels:

Rule: _____

Rule: _____

Rule: _____

Rule: _____

Rule: _____

Rule: _____

Railroading Merit Badge Worksheet

Requirement 4 B

Explain the use and function of the "EOTD" or "FRED" now used in place of cabooses:

Requirement 5

Use the space below to explain the use of a timetable by making a written plan for a trip by rail between two cities at least 500 miles apart using the time table on the following page.

Train #: _____ Type of Service: _____

Depart From: _____ Arrive At: _____

Departure Date: _____ Arrival Date: _____

Departure Time: _____ Arrival Time: _____

Notes: _____

Railroading Merit Badge Worksheet

A M T R A K ' S

Desert Wind

Fall/Winter 1994/1995 Effective October 30
Chicago...Salt Lake City...
Los Angeles

35		◀ Train Number ▶		36	
Daily		◀ Days of Operation ▶		Daily	
Read Down	Mile	▼	Symbol	▲	Read Up
Amtrak Thruway Bus Connection—Madison, WI/Chicago, IL—Schedule Below					
3 05P	0	Dp	(Burlington Northern) Chicago, IL—Union Sta. ● (CT)	Ar	4 15P
19 3 40P	28	↓	Naperville, IL (METRA/BN Line)	Ar	19 2 54P
4 50P	104	↓	Princeton, IL	Ar	1 45P
5 44P	162	↓	Galesburg, IL—S. Seminary St. 61	Ar	12 55P
6 37P	205	↓	Burlington, IA	Ar	12 00N
7 12P	233	↓	Mt. Pleasant, IA	Ar	11 25A
7 47P	280	↓	Ottumwa, IA	Ar	10 38A
9 13P	360	↓	Osceola, IA (Des Moines)	Ar	9 16A
9 46P	393	↓	Creston, IA	Ar	8 47A
Amtrak Thruway Bus Connection—Kansas City, MO/Omaha, NE—Schedule Below					
11 35P	501	Ar	Omaha, NE	Dp	6 50A
11 59P	501	Dp	Omaha, NE	Ar	6 25A
1 02A	555	Ar	Lincoln, NE	Dp	5 25A
1 12A	555	Dp	Lincoln, NE	Ar	5 15A
2 45A	652	↓	Hastings, NE (Grand Island)	Ar	3 47A
3 36A	706	↓	Holdrege, NE	Ar	2 55A
4 46A	784	↓	McCook, NE (CT)	Ar	1 47A
6 07A	960	↓	Fort Morgan, CO (Sterling) (MT)	Ar	10 15P
8 10A	1037	Ar	(Southern Pacific Lines) Denver, CO (Col. Sprgs. ●)	Dp	9 00P
9 10A	1037	Dp	Denver, CO (Col. Sprgs. ●)	Ar	7 40P
11 05A	1100	↓	Winter Park, CO—Fraser ●	Ar	4 55P
11 35A	1113	↓	Granby, CO (Rocky Mt. Nat'l Park)	Ar	4 30P
2 50P	1222	↓	Glenwood Springs, CO (Aspen) ●	Ar	1 20P
4 55P	1312	↓	Grand Junction, CO	Ar	11 35A
6 10P	1390	↓	Thompson, UT	Ar	9 35A
8 00P	1489	↓	Helper, UT (Price)	Ar	8 00A
10 05P	1564	↓	Provo, UT	Ar	5 55A
Amtrak Thruway Bus Connection—Ogden, UT/Salt Lake City, UT—Schedule Below					
11 36P	1609	Ar	(Union Pacific) Salt Lake City, UT ●	Dp	5 05A
12 45A	1609	Dp	Salt Lake City, UT ●	Ar	3 30A
3 52A	1815	↓	Milford, UT (Cedar City) (MT)	Ar	11 30P
4 55A	1931	↓	Caliente, NV (PT)	Ar	8 30P
7 50A	2057	Ar	Las Vegas, NV ●	Dp	6 00P
8 05A	2057	Dp	Las Vegas, NV ●	Ar	5 45P
11 25A	2241	↓	(Santa Fe) Barstow, CA	Ar	2 30P
12 00N	2279	↓	Victorville, CA	Ar	1 35P
1 05P	2325	↓	San Bernardino, CA	Ar	12 33P
D 2 18P	2371	↓	Fullerton, CA	Ar	R11 30A
3 20P	2397	Ar	Los Angeles, CA ● (PT)	Dp	10 55A
578			Connecting Train at Fullerton		575
3 18P	0	Dp	Fullerton, CA	Ar	11 00A
5 38P	103	Ar	San Diego, CA ● (PT)	Dp	8 50A

Connecting Services

Amtrak Thruway Bus Connection—Madison, WI/Chicago, IL					
10 00A	0	Dp	Madison, WI—Memorial Union	Ar	9 15P
11 00A	35	↓	Janesville, WI	Ar	8 15P
11 25A	48	↓	Beloit, WI	Ar	7 50P
11 50A	65	↓	Rockford, IL	Ar	7 30P
1 55P	140	Ar	Chicago, IL ● (CT)	Dp	4 45P
Amtrak Thruway Bus Connections—Kansas City, MO/Omaha, NE					
6 30P	0	Dp	Kansas City, MO ●	Ar	12 00N
8 00P	54	↓	St. Joseph, MO	Ar	11 00A
10 30P	198	Ar	Omaha, NE (CT)	Dp	8 00A
Amtrak Thruway Bus Connections—Ogden, UT/Salt Lake City, UT					
9 15P	0	Dp	Ogden, UT	Ar	5 50A
10 00P	36	Ar	Salt Lake City, UT ● (MT)	Dp	5 05A

Amtrak ThruwaySM Bus Connections

The Amtrak Thruway Bus Connections provide coordinated train/motor coach service with guaranteed connections, as well as through fares and ticketing. Amtrak All-Aboard Fares and other excursion fares are honored on Amtrak Thruway Buses, subject to availability. Passengers traveling on Amtrak Thruway connecting buses must be ticketed before boarding buses in order to obtain through fares. Tickets may be purchased at Amtrak stations, travel agencies or via ticket-by-mail. Buses are normally not accessible to passengers confined to wheel chairs.

Services On Board the Desert Wind

Sleeping Cars—Reservations required. Deluxe, special, family and economy bedrooms. First Class Service includes complimentary meals, bedtime sweet, morning wake-up service with a newspaper, and coffee, tea and orange juice served between 6:30 AM and 9:30 AM. Amtrak's Metropolitan Lounge[®] is available in Chicago for first class passengers.

Coaches—Reservations required.

Dining Car—Chicago—Salt Lake City—Complete meals.

Sightseer Lounge Car—Chicago—Salt Lake City—Sandwiches, snacks and beverages.

Dining/Lounge Car—Salt Lake City—Los Angeles—Complete meals and sandwiches, snacks and beverages.

Entertainment—Feature movies (except Salt Lake City to Los Angeles), games and hospitality hour.

No Smoking—Smoking is not permitted on board this train. Smoking is permitted on station platforms at designated stops. Consult on-board train crew.

Note: Connections at Salt Lake City for Ogden and points in Wyoming.

Symbols and Reference Marks

A Time Symbol for A.M. **CT** Central Time
D Stops only to discharge passengers; train or bus may leave ahead of schedule when station work is completed.

MT Mountain Time **N** Time Symbol for Noon

P Time Symbol for P.M. **PT** Pacific Time

R Stops only to receive passengers.

S Self serve ticketing machines are available at this station. Purchase must be by major credit card. Travelers may purchase coach tickets to any cities listed on the machine, one way or round trip. Previously made reservations (Coach, Club Service, Custom Class or Sleeper) require entering the reservation number.

Amtrak ExpressSM Shipping and Checked Baggage Service available at stations indicated.

Checked Baggage Service—Oversize items on the bus between Ogden and Salt Lake City are subject to delay.

● Tickets cannot be purchased at this location. You may purchase your tickets on the train (without penalty) or from any Amtrak appointed travel agency. Please call 1-800-USA-RAIL to make special arrangements when boarding/detraining assistance is required.

♿ The station and/or platform area is accessible to disabled and elderly passengers. Please call 1-800-USA-RAIL to make special arrangements when boarding/detraining assistance is required.

⚡ Stops only on signal to receive or discharge passengers; where possible please give sufficient advance notice to agent or conductor.

***** Amtrak's Great American Vacations package(s) available at this destination. Book your hotel and/or tour by calling 1-800-321-8684.

19 Passengers not carried locally between this station and Chicago except when connecting at Chicago to/from other Amtrak trains.

61 Connecting Bus Service between Galesburg and Springfield. Bus connecting from the Desert Wind departs Galesburg at 2:30 PM and arrives Springfield at 5:00 PM. Bus connecting to the Desert Wind departs Springfield at 10:15 AM and arrives Galesburg at 12:45 PM.

Other Carriers' Services to locations not served by Amtrak[®]

The following interline services are available to locations not served by Amtrak. Schedules, reservations and ticketing are available from Amtrak agents except where indicated. Amtrak acts as selling agent only for connecting carriers and disclaims liability for travel performed over other carrier lines, and connecting service information in this timetable cannot be guaranteed. Contact an Amtrak agent or the individual carrier listed for further information.

Denver—Colorado Springs/Pueblo

Greyhound operates service between Denver and Colorado Springs/Pueblo. Greyhound is located less than one mile from the Amtrak Station. (303) 293-6576.

Chicago O'Hare Airport

Chicago Transit Authority (CTA) subway trains provide frequent service to O'Hare Airport. Trains leave from the subway station at the corner of Clinton and Congress Streets, two blocks south of Union Station. Pay fare in subway station. (312) 836-7000 or (708) 836-7000.

San Diego City Sightseer

San Diego Mini Tours operates six sightseeing trips departing from Amtrak's San Diego Station. Schedules accommodate passengers arriving on San Diegan Trains 568, 570 and 572. Contact Amtrak.

Los Angeles City Sightseer

Star Line/Gray Line operates three sightseer trips. Schedules accommodate passengers arriving on San Diegans. Contact Amtrak.

1. Movie Stars' Homes & Beverly Hills
2. Universal Studios
3. Stars' Homes Grand Tour of Los Angeles

For reservations and information, call toll-free: 1-800-USA-RAIL or your travel agent. Schedules subject to change without notice.

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National Railroad Passenger Corporation

Washington Union Station, 60 Massachusetts Ave., N.E., Washington, DC 20002

NRPC Form P35/36—200M—10/30/94 Stock #023709



Railroading Merit Badge Worksheet

Requirement 6 B

View a video showing the operation of a railroad, such as *Trains Big and Small*. Give a brief summary of the railroad video you watched today.

Name of video: _____

Summary:

Requirement 7

Name three types of modern unit freight trains.

Train 1: _____

Train 2: _____

Train 3: _____

Explain why these trains are more efficient than mixed freights?

Railroading Merit Badge Worksheet

