

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

### Requirement 1

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

✦ If you have selected *Option A*:

Name three types of modern freight trains:

\_\_\_\_\_

Explain why unit trains are more efficient than mixed freight trains: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

✦ If you have selected *Option B*:

Name one Class 1 or regional railroad: \_\_\_\_\_

What cities does it serve? \_\_\_\_\_

What are the locations of major terminals? \_\_\_\_\_

Where are the service facilities located? \_\_\_\_\_

Where is the crew change point? \_\_\_\_\_

What are the major commodities it carries? \_\_\_\_\_

✦ If you selected *Option C*:

Using models or pictures, identify 10 types of railroad freight or passenger cars. List them below and explain the purpose of each type of car. Place an "M" by the cars you identified by a model and place a "P" by the cars you identified by picture.

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Car Identified: \_\_\_\_\_ Purpose of Car: \_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

+ If you selected *Option D*:

Explain how a modern diesel or electric locomotive develops power: \_\_\_\_\_

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Explain the term "dynamic braking": \_\_\_\_\_

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Explain the term "radial steering trucks": \_\_\_\_\_

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+ **Requirement 2**

Explain the purpose and formation of Amtrak: \_\_\_\_\_

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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.

Departure Time: \_\_\_\_\_ Arrival Time: \_\_\_\_\_ Train #: \_\_\_\_\_ Service: \_\_\_\_\_

Written Plan: \_\_\_\_\_

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List and explain the various forms of public/mass transit using rail as the fixed guide path: \_\_\_\_\_

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Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

### Requirement 3

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

† If you have selected *Option A*:

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

Department: \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_

Department: \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_

Department: \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_

Department: \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_

† If you selected *Option B*:

Tell about the opportunities in railroading that interest you most and why: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

† If you selected *Option C*:

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

Support Industry: \_\_\_\_\_

Function: \_\_\_\_\_  
\_\_\_\_\_

Support Industry: \_\_\_\_\_

Function: \_\_\_\_\_  
\_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

Support Industry: \_\_\_\_\_

Function: \_\_\_\_\_

Support Industry: \_\_\_\_\_

Function: \_\_\_\_\_

If you selected *Option D*:

With your parents and counselors approval, interview someone employed in the rail industry.

Who did you interview? \_\_\_\_\_

What does this person do? \_\_\_\_\_

How did they become interested in railroading? \_\_\_\_\_

What type of schooling and training is required for this position? \_\_\_\_\_

**+ Requirement 4**

Explain the purpose of Operation Lifesaver and its mission: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**+ Requirement 5**

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

If you have selected *Option A*:

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

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

#> If you selected *Option B*:

Explain why railroad rights-of-way are important for safety: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If you selected *Option C*:

List 10 safety tips to remember when you are near a railroad track (either on the ground or on a station platform) or aboard a train.

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
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Tip: \_\_\_\_\_  
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Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

Tip: \_\_\_\_\_  
\_\_\_\_\_

If you Selected *Option D*:

Tell about the guidelines for conduct that should be followed when you are near or on railroad property: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Explain the dangers of trespassing on railroad property: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

If you selected *Option E*:

Tell what an automobile driver can do to safely operate a car at grade crossing: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

If you selected *Option F*:

Tell how to report a malfunction of grade crossing warning devices: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

If you selected *Option G*:

List safety precautions a pedestrian should follow at a public crossing: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

### ~~†~~ Requirement 6

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

Advance Warning Sign: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Pavement Markings: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Crossbucks: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Flashing Red Lights: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Crossing Gates: \_\_\_\_\_

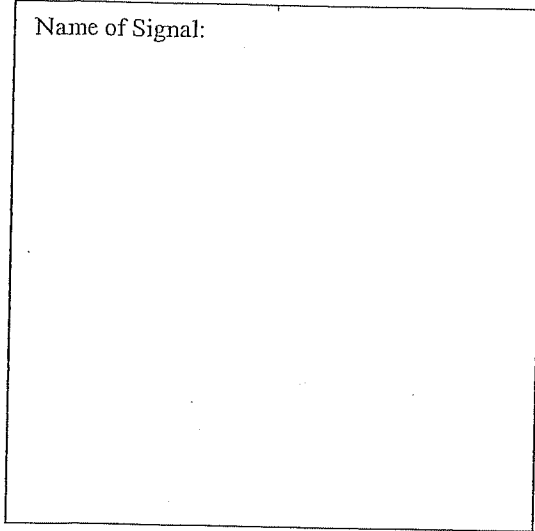
\_\_\_\_\_  
\_\_\_\_\_

### + Requirement 7

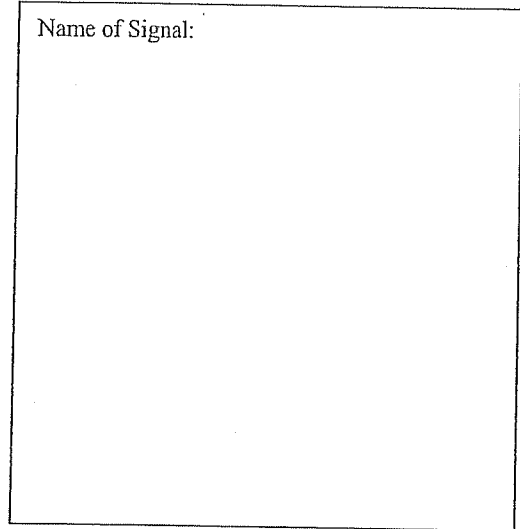
Explain how railroad signals operate: \_\_\_\_\_  
\_\_\_\_\_

In the spaces below show two basic signals types using color and configuration:

Name of Signal: \_\_\_\_\_



Name of Signal: \_\_\_\_\_



Describe a way to signal a train for an emergency stop: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Explain the use and function of the "EOTD" (end-of-train device) or "FRED" (Flashing rear end device) used on the last car of most trains: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Requirement 8

You have been given two options for this requirement. Select and complete ONE of them.

If you have selected *Option A – Model Railroading*:

There are 7 different requirements within Option A. Select and complete TWO of them.

\* If you have selected *Option A1*:

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.

Once you have completed your drawing attach it to this worksheet and show it to your merit badge counselor. *DRAW ON BACK PAGE*

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

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If you have selected *Option A2*:

Build one model railroad car kit or one locomotive kit.

*BRING TO SHOW TO COUNSELOR*

Give a brief description of your model(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_ Show your model or photos of your model to your counselor.

*+* If you have selected *Option A3*:

Name the scale of four popular model railroad gauges:

Scale Name: _____	Gauge: _____
Scale Name: _____	Gauge: _____
Scale Name: _____	Gauge: _____
Scale Name: _____	Gauge: _____

Identify the scale of four model cars or locomotives:

Scale Name: _____	Car/Locomotive: _____
Scale Name: _____	Car/Locomotive: _____
Scale Name: _____	Car/Locomotive: _____
Scale Name: _____	Car/Locomotive: _____

If you have selected *Option A4*:

Locate the Web site for four model railroad-related manufactures or magazine publishers.

Name: _____	Web site: _____
Name: _____	Web site: _____
Name: _____	Web site: _____
Name: _____	Web site: _____

Print information on their products and services. Attach the information to this worksheet. Discuss the information with your merit badge counselor.



H 8 If you selected *Option B – Railfanning*:

There are 4 different requirements within Option B. Select and complete TWO of them.

f If you selected *Option B1*:

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

Use this area to give your report. Attach your photos/sketches/video to this worksheet and show it to your merit badge counselor.

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If you selected *Option B2*:

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.

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# A M T R A K®

## Empire Builder

Fall/Winter 1999/2000 Effective October 31  
Chicago...St. Paul-Minneapolis...  
Portland/Seattle

7		Train Number		8	
Daily		Days of Operation		Daily	
Read/Down	Mile	Symbol	Station	Symbol	Read/Up
2 10P	0	Ar	Chicago, IL—Union Sta. * (CT)	Ar	4 00P
R 2 34P	18	Ⓛ	Glenview, IL (METRA/Milw. Line)	Ⓛ	D 3 05P
R 3 50P	86	Ⓛ	Milwaukee, WI *	Ⓛ	D 2 05P
5 00P	150	Ⓛ	Columbus, WI (Madison)	Ⓛ	12 33P
5 29P	178	Ⓛ	Portage, WI	Ⓛ	12 00N
5 47P	195	Ⓛ	Wisconsin Dells, WI *	Ⓛ	11 42A
6 25P	240	Ⓛ	Tomah, WI	Ⓛ	11 01A
7 11P	281	Ⓛ	La Crosse, WI	Ⓛ	10 20A
7 44P	312	Ⓛ	Winona, MN	Ⓛ	9 44A
8 46P	375	Ⓛ	Red Wing, MN *	Ⓛ	8 39A
10 25P	421	Ar	St. Paul-Minneapolis, MN *	Dp	7 35A
11 05P		Dp	☞ Duluth, Eau Claire—see other side	Ar	6 50A
12 33A	489	Ⓛ	St. Cloud, MN	Ⓛ	5 12A
1 36A	554	Ⓛ	Staples, MN	Ⓛ	4 02A
2 32A	616	Ⓛ	Detroit Lakes, MN	Ⓛ	3 03A
3 44A	665	Ⓛ	Fargo, ND (Moorhead)	Ⓛ	2 03A
5 01A	740	Ⓛ	Grand Forks, ND	Ⓛ	12 44A
6 24A	825	Ⓛ	Devils Lake, ND	Ⓛ	11 17P
7 21A	882	Ⓛ	Rugby, ND	Ⓛ	10 23P
8 36A	943	Ar	Minot, ND	Dp	9 27P
8 56A		Dp		Ar	9 07P
9 48A	997	Ⓛ	Stanley, ND	Ⓛ	7 56P
11 03A	1063	Ⓛ	Williston, ND (CT)	Ⓛ	6 54P
11 37A	1170	Ⓛ	Wolf Point, MT (MT)	Ⓛ	4 18P
12 23P	1219	Ⓛ	Glasgow, MT	Ⓛ	3 32P
1 24P	1285	Ⓛ	Malta, MT	Ⓛ	2 37P
3 33P	1372	Ⓛ	Havre, MT	Ⓛ	1 17P
5 14P	1476	Ⓛ	Shelby, MT (Great Falls, Butte ☞)	Ⓛ	11 10A
5 44P	1501	Ⓛ	Cul Bank, MT	Ⓛ	10 30A
6 17P	1534	Ⓛ	Browning, MT	Ⓛ	9 55A
6 17P	1548	Ⓛ	East Glacier Park, MT *	Ⓛ	8 40A
7 36P	1578	Ⓛ	Essex, MT—Izaak Walton Inn *	Ⓛ	8 01A
8 18P	1604	Ⓛ	West Glacier, MT (Appgar) *	Ⓛ	7 31A
9 13P	1626	Ⓛ	Whitefish, MT (Kalispell) *	Ⓛ	5 26A
10 56P	1729	Ⓛ	Libby, MT (MT)	Ⓛ	2 32A
11 46P	1813	Ⓛ	Sandpoint, ID (PT)	Ⓛ	1 15A
1 30A	1880	Ar	Spokane, WA (Coeur d'Alene, ID) *	Dp	28
27			Thru Cars Chicago-Portland		
2 30A	1880	Dp	Spokane, WA	Ar	12 12A
5 23A	2024	Ⓛ	Pasco, WA (Kennewick, Richland)	Ⓛ	9 06P
7 18A	2150	Ⓛ	Wishram, WA (The Dalles)	Ⓛ	7 01P
7 52A	2181	Ⓛ	Bingen-White Salmon, WA	Ⓛ	6 25P
9 11A	2246	Ⓛ	Vancouver, WA	Ⓛ	5 09P
9 55A	2256	Ar	Portland, OR *	Dp	4 40P
			☞ Salem, Eugene—see other side		
2 05A	1880	Dp	Spokane, WA	Ar	12 32A
4 13A	1999	Ⓛ	Ephrata, WA	Ⓛ	9 49P
5 23A	2051	Ⓛ	Wenatchee, WA	Ⓛ	8 52P
8 26A	2172	Ⓛ	Everett, WA	Ⓛ	5 42P
8 51A	2188	Ⓛ	Edmonds, WA	Ⓛ	5 17P
9 55A	2206	Ar	Seattle, WA (Victoria, BC ☞) * (PT)	Dp	4 45P
			☞ Vancouver, BC—see other side		

### Services on the Empire Builder

**Sleeping Cars**—Chicago—Portland/Seattle—Reservations required. Superliner® standard, deluxe, accessible and family 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 and Portland for first class passengers.

**Coaches**—Reservations required.

**Dining Car**—Chicago—Spokane—Seattle—Complete meals.

**Sightseer Lounge Car**—Chicago—Spokane—Portland—Sandwiches, snacks and beverages. Cold meal service for sleeping car passengers between Spokane and Portland.

(Note—Combined Diner/Lounge provides food service between Spokane and Seattle.)

**Entertainment**—Feature movies (between Chicago, Spokane and Portland), games and hospitality hour.

**Smoking**—Cigarette smoking is permitted only in a designated smoking area on the lower level of one of the coaches. No smoking in all other areas of coaches, nor in sleepers, lounges or dining cars. Smoking is prohibited entirely on Trains 27 and 28 between Spokane and Portland.

### THRUWAY MOTORCOACH CONNECTIONS

#### Duluth...St. Paul/Minneapolis

☞ Greyhound Lines

NOTE—Subject to change January 11, 2000

5 30P	0	Dp	Duluth, MN	•	Ar	11 55A
8 30P	149	Ar	St. Paul-Minneapolis, MN —Amtrak Sta.		Dp	8 30A

#### Eau Claire...St. Paul/Minneapolis

☞ Greyhound Lines

NOTE—Subject to change January 11, 2000

6 55P	0	Dp	Eau Claire, WI	(CT)	•	Ar	11 10A
9 00P	90	Ar	St. Paul-Minneapolis, MN —Amtrak Sta.	(CT)		Dp	9 00A

#### Portland...Eugene-Springfield

☞ Amtrak Thruway Service

12 00N	0	Dp	Portland, OR *	Ⓛ	Ar	4 15P
1 00P	53		Salem, OR			3 10P
1 35P	81		Albany, OR (Corvallis)			2 35P
2 25P	124	Ar	Eugene-Springfield, OR		Dp	1 45P

#### Seattle...Vancouver, BC

☞ Western Trailways

10 30A	0	Dp	Seattle, WA—King St. Sta. *	•	Ar	4 30P
D 1 00P	115		Surrey, BC—Pacific Inn			R 1 30P
D 1 30P	132		Richmond, BC—Delta Pacific			R 1 00P
2 00P	144	Ar	Vancouver, BC —Pacific Central Sta. * (PT)		Dp	12 30P

### Symbols and Reference Marks

- A Time Symbol for A.M.
- CT Central Time
- D Stops only to discharge passengers; train may leave ahead of schedule when station work is completed.
- MT Mountain Time
- P Time Symbol for P.M.
- PT Pacific Time
- R Stops only to receive passengers.
- ☞ Amtrak Express® Shipping and Checked Baggage Service available at stations indicated.
- Ⓛ Checked Baggage Service.
- ☞ Thruway Motorcoach Connection. Coordinated train/motorcoach service with guaranteed connections and through fares/ticketing. Passengers traveling on Thruway connections must be ticketed before boarding coaches in order to obtain through fares. Motorcoaches are normally not accessible to passengers who use wheelchairs, except for the Portland-Eugene route.
- 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.
- Ⓛ Ticket office not open at all train departure times. When ticket office is closed, fare may be paid on train without penalty. Motorcoach drivers cannot accept fares.
- Ⓛ All station facilities are fully accessible to persons who use wheelchairs. Barrier-free access between street, platform and trains; however, not all facilities within the station are fully accessible.
- ☞ Via Connecting Ferry Service.
- ☞ Stops only on signal to receive or discharge passengers; where possible please give sufficient advance notice to agent or conductor.
- \* Amtrak Vacations package(s) available at this destination. Book your hotel and/or tour by calling 1-800-321-8684.
- Ⓛ East Glacier Park Station will be open April 30-October 8, 2000.
- Ⓛ Browning Station will be open through April 29, 2000.

### Other Connecting Services

Contact an Amtrak agent or the individual carrier listed for further information.

#### Shelby—Great Falls—Helena—Butte

Rimrock Trailways operates service between Amtrak's Shelby Station and Great Falls, Helena and Butte. Purchase ticket from Rimrock Trailways. (406) 453-1541.

#### Seattle—Victoria, BC Thruway Service

Clipper Navigation operates the high-speed catamaran *Victoria Clipper* daily, year-round between Seattle and Victoria's Inner Harbour. Service also available to Friday Harbor, WA, and to Rosario, WA (Orcas Island) during the summer. Ship sails from Pier 69 in Seattle, 1 mile from Amtrak's Seattle Station. Reservations recommended; call Amtrak (1-800-USA-RAIL) at least two days prior to travel, or contact Victoria Clipper at (206) 448-5000 or (800) 888-2535.

For reservations and information  
call toll-free in the U.S.A. and Canada  
1-800-USA-RAIL  
1-800-872-7245  
or call your travel agent

Or visit  
www.amtrak.com  
on the Internet

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