

RAILROAD MUSEUM OF PENNSYLVANIA TEACHER'S GUIDE FOR RAILROADING

Throughout history man has been obsessed with a way of getting from one place to another very quickly. Unfortunately for early man, the modes he had of traveling were very limited. It was not until the introduction of the railroad that man's way of life changed drastically, achieving his goal of traveling from one place to another in a shorter amount of time. With this teacher's guide, it is our intention to made students aware of how the railroad changed our way of life forever. Each section has classroom activities that you and your students can complete, as well as, a recommended reading list and a list of vocabulary words.

WHAT WAS IT LIKE TO TRAVEL ON THE RAILROAD?

Charles Dickens, the famous author of A Christmas Carol, Oliver Twist, and A Tale of Two Cities, traveled the United States around the mid-1800s and even made his way through Pennsylvania using the railroad for part of his journey. Dickens' account gives us a glimpse into how people traveled back then and the strides that were being made in transportation, which continues to this day.

The train calls at stations in the woods, where the wild impossibility of anybody having the smallest reason to get out, is only to be equaled by the apparently desperate hopelessness of there being anybody to get in. It rushes across the turnpike road, where there is no gate, no policeman, no signal: nothing but a rough wooden arch on which is painted "When the bell rings, look out for the locomotive." On it whirls headlong, dives through the woods again, emerges in the light, clatters over the frail arches, rumbles upon the heavy ground, shoots beneath a wooden bridge which intercepts the light for a second like a wink, suddenly awakens all the slumbering echoes in the main street of a large town, and dashes on haphazard, pell-mell, neck-or-nothing, down the middle of the road. There – with mechanics working at their trades, and people leaning from their doors and windows, and boys flying kites and playing marbles and men smoking and women talking and children crawling and pigs burrowing, and unaccustomed horses plunging and rearing, close to the very rails – there – on, on, on – tears the dragon of an engine with its train of cars; scattering in all directions a shower of burning sparks from its wood fire; screeching, hissing, yelling, panting; until at last the thirsty monster stops beneath a covered way to drink, the people cluster round, and you have time to breathe again.

-- Charles Dickens, *American Notes for General Circulation*, 1842

1. Read Charles Dickens account of his travel to the United States and think about what it was like to ride on the Allegheny-Portage Railroad. Was it a dangerous journey? Would you have been courageous enough to make the same trip?
2. Look in the library for other journeys on the railroad, such as *Journey Through Pennsylvania*, 1835. Compare and contrast traveling throughout the years.

LEARNING FROM THE PAST

Historians and archaeologists use objects from the past to tell the stories of railroaders and train travelers from long ago. Like detectives, they piece together clues from these objects left behind to solve mysteries about what life was like in the days of the "iron horse."

1. Find something at home having something to do with a railroad. Display and describe its use to the class. Discuss why you think railroads have been so popular to people throughout history.

2. Bring a sample of your favorite toy, book or other item from home. Pretend that no one in the class has ever seen it before. How would you describe your object to someone else? Explain how you would take care of it so that future generations might learn from it? Describe some of the things people from the future might learn about people living in the present from your object.
3. Either in small groups or as a class, create a mini “museum” in the classroom. Come up with an object(s) to be featured, a name and a statement of purpose or mission. Display your “museum” on the bulletin board or at your desk. Discuss your “museum” with fellow students and make the time to visit theirs as well.
4. Interview someone you know who worked for a railroad or traveled by train in the past. Share what you learned with the rest of the class.

THE JOBS OF RAILROADERS

For almost two centuries, men—and eventually women—were employed on the railroad, performing a variety of tasks in all aspects of the industry, as well as all rungs on the social ladder. In many cases, their story is the story of America: tapping untamed wilderness, from coast to coast, and creating new opportunities—and challenges—as the rails expanded westward.

1. What jobs did people perform on the railroad? Discuss the different jobs on the railroad and what each person did.
2. If you worked on the railroad, what job would you have liked to work at? Weigh the pros and cons of working at each job.

THE MAKING OF A RAILROAD EMPIRE

Building a railroad empire was a massive undertaking in the 19th century. Not everyone was thrilled at the prospect of railroads blazing new trails through crowded cities and untapped wilderness. Explore some of these challenges early railroads faced with your students before visiting the Railroad Museum of Pennsylvania.

1. Have students come up with a list of the steps required to build a railroad. Be sure that the steps are placed in the proper order: seek investors and other sources of money to begin the project; get maps and pictures of the area; choose the best route; survey the route; hire laborers to cut trees and clear the route, prepare the roadbed, build bridges and tunnels, lay the track, connect the rails, and ballast the track.
2. Using a local, county or state map, have students explain the steps it would take to build a railroad between any two cities or towns. ASK: How would you go about getting the money together to build the new railroad? What challenges would engineers face in designing the new railroad? What challenges would the trackworkers face in building the new railroad? Have them create a poster or brochure advertising their new railroad. The students may also devise their own timetable for passenger trains.
3. Hold a mock debate, set in the 1830s, about the coming of the steam railroad. Divide the class into two groups: Supporters and Opponents. Allow groups time to brainstorm and write down their perspective side’s views. Open the debate with the teacher or another student as moderator. Compare and contrast the views of the students living today with those of the people living in the 1830s.

TRANSPORTATION

Railroads do not operate in a vacuum. For over fifty years, they have battled to remain financially solvent as newer competing forms of transportation, namely airplanes and automobiles, have entered

the scene. Today, more and more, these modes of transportation, along with waterborne shipping, have developed ways to eliminate cutthroat competition as a way of cutting costs and providing consumers with the best service possible. What made this possible? Was it always this way? What was transportation like in the days before trains, planes and automobiles? And what is in store for travelers and manufacturers in the future?

1. Make a transportation timeline. Discuss the different modes of transportation and their arrival in history.
2. Draw a picture of a steam locomotive. Discuss the parts and function of each part on the locomotive.
3. Have your students look on the Pennsylvania Turnpike webpage (www.paturnpike.com) and find the toll mileage calculator to determine how much it would cost and what the distance is between Pittsburgh to Philadelphia assuming average speed is 60 mph and your car gets 30 miles per gallon.
4. Have your students look on the Amtrak webpage (www.amtrak.com) and find the fare finder to determine how much it would cost to travel from Pittsburgh to Philadelphia.
5. Have your students look on the United Airlines webpage (www.united.com) and find the fare finder to determine how much it would cost to travel from Pittsburgh to Philadelphia.
6. After calculating these figures, think about the costs, mileage, and routes for the same trip in different periods of history. Look at some historic maps of Pennsylvania and books to aid in this search.
7. Look at current advertisements for cruise lines and airlines. How do these advertisers get your attention? Create your own railroad advertisement to entice people to ride the railroad.

This material has been prepared by the Education Department of the Railroad Museum of Pennsylvania. For additional information, visit our web section at: www.rrmuseumpa.org/education, or contact us at 717 687-8628.

RAILROAD VOCABULARY

Baggage Car: a car for passenger's luggage, packages, and other small parcels.

Ballast: usually crushed stone underlying and supporting the track.

Boiler: a part of a steam engine where water is turned into steam for power.

Brakeman: couples and uncouples cars, throws switches, inspects the brakes, and protects the train.

Caboose: car on the end of the train, which is sleeping and eating quarters for some of the crew.

Coach: a passenger car with seats.

Conductor: assists in making up trains, overseeing the train schedule, collecting passenger's tickets and meeting their needs, and is in charge of the train and its crew.

Consist: the contents or equipment of a train.

Coupler: the device on the end of a car which connects the cars on a train.

Diesel-Electric Engine: a locomotive that burns diesel fuel to produce electric power in operating the engine.

Dining Car: a car with a restaurant on board complete with a kitchen.

Electric Engine: a locomotive that draws electric power from an overhead wire or a third rail.

Engineer: the person who runs the locomotive which pulls the train.

Fireman: stoked the steam locomotive's fire with wood or coal.

Freight Train: a train carrying raw materials, manufactured goods and other products.

Gandy Dancer: a track laborer; the name may have originated from the Gandy Manufacturing Company, which produced the tools used by railroad workers.

Gondola: a rail car that has low sides that can carry anything and is unloaded from the top.

Hopper: a rail car that can carry dry goods and coal that can be unload by doors located underneath the car.

Locomotive: a self-propelled engine that pulls or pushes freight or passenger cars.

Observation Car: a rail car used for viewing scenery and that is located on or near the end of the train.

Passenger Train: a train carrying people to various destinations.

Pilot (cowcatcher): the sloping structure located on the front of a steam engine.



Rail: the parallel lengths of steel, iron, or wood upon which the train's wheels roll.



Railroad Shops: a place where locomotives, cars, and other equipment can be made or repaired.

Railway Post Office Car: a post office on wheels.

Reefer: a refrigerator car.

Roundhouse: a building where light repair and maintenance of locomotives is done.

Sleeper: a passenger car which had seats that could be converted into beds.

Stationmaster: a person that is in charge of a passenger station, sees that trains are properly made up and dispatched at the proper time, and may sell tickets.

Steam Engine: a locomotive which burns wood, coal, or oil, and when introduced with water producing steam, which propels the engine.

Tender: the vehicle behind the steam locomotive for carrying fuel and water.

Ties: the crosspieces to which rails are spiked for their support.

Track: the fixed path along which trains run, consisting of roadbed, ties, and rail.

Train: a string of connected railroad cars with a locomotive.

SUGGESTED READING

For Teachers:

Ambrose, Stephen E. *Nothing Like It in the World: The Men Who Built the Transcontinental Railroad 1863-1869*. New York: Simon & Schuster, 2001.

Armstrong, John H. *Railroad: What It Is, What It Does*. Omaha, NE: Simmons-Boardman Books, 1998.

Burness, Tad. *Classic Railroad Advertising: Riding the Rails Again*. Iola, WI: Krause, 2001.

Grant, H. Roger. *Getting Around: Exploring Transportation History*. Malabar, FL: Krieger, 2003.

Lewie, Chris J. *Two Generations on the Allegheny Portage Railroad*. Shippensburg, PA: Burd Street, 2001.

O'Connor, Stephen. *Orphan Trains: The Story of Charles Loring Brace and the Children He Saved and Failed*. Boston: Houghton Mifflin, 2001

Prolix, Peregrine (Philip Nicklin). *Journey through Pennsylvania*. York, PA: American Canal & Transportation Center, 1981.

Reinhardt, Richard. *Workin' on the Railroad: Reminiscences from the Age of Steam*. Norman, OK: University of Oklahoma Press, 2003.

Shank, William H. *Three Hundred Years with the Pennsylvania Traveler*. York, PA: American Canal & Transportation Center, 2000.

For Students:

Fraser, Mary Ann. *Ten Mile Day: And the Building of the Transcontinental Railroad*. Henry Holt & Co, 1996. (Ages 9-12)

Kay, Verla. *Orphan Train*. New York: Putnam, 2003. (Ages 4-8)

Meltzer, Milton, *Hear that Train Whistle Blow! How the Railroad Changed the World*. New York: Random House, 2004. (Ages 9-12)

Sandler, Martin W., *Riding the Rails in the USA: Trains in American Life*. New York: Oxford UP, 2003. (Ages 9-12)

Tunnell, Michael O. *Mailing May*. New York: HarperCollins, 2001. (Ages 4-8)

Wales, Dirk. *A Lucky Dog: Owney, U.S. Rail Mail Mascot*. Winnipeg, MB: Great Plains, 2003. (Ages 4-8)

Weitzman, David. *The John Bull: A British Locomotive Comes to America*. New York: Farrar Straus Giroux, 2004. (Ages 9-12)