

VOCABULARY

telegraph communication device that works by sending electrical signals along a wire

locomotive a steam-powered train engine

clipper ship narrow, speedy sailing vessel designed to make best use of wind

SUMMARY

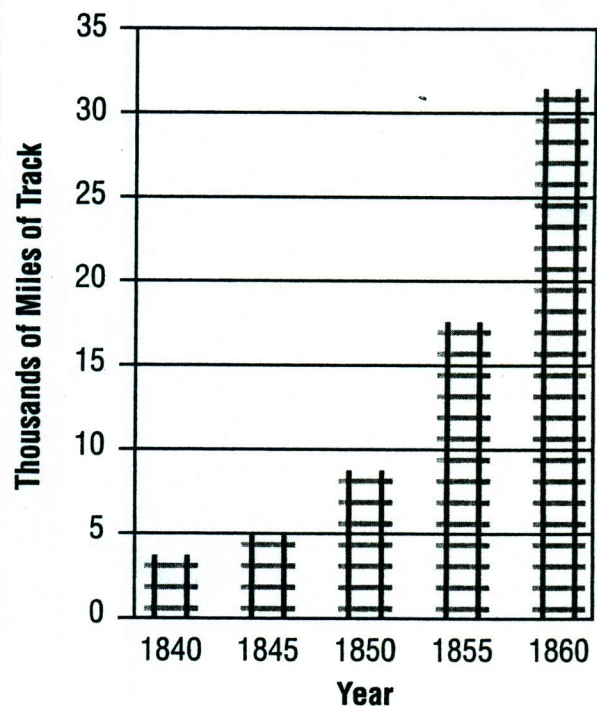
In the middle 1800s, a number of inventions helped manufacturing and farming grow in the North. The sewing machine allowed a worker to make dozens of shirts in the same amount of time that it took to sew one shirt by hand. Farmers could now use lightweight steel plow pulled by a horse. (Older iron or wooden plows were heavy and had to be pulled by slow-moving oxen.) A mechanical reaper could harvest as much as five people using hand tools.

New means of communication helped business. Samuel F.B. Morse invented the **telegraph** in the 1840s. The telegraph allowed news to travel rapidly. Businesses in different parts of the country could now exchange information quickly.

New transportation methods also helped northern businesses grow. Steam-powered **locomotives** moved people and freight at amazing speeds. Early trains had many troubles. They broke down often and were unsafe. They caused fires. It took years for railroad builders to build strong, safe tracks. Yet, by the 1850s, railroads linked cities from the East to the Midwest. (See graph.)

The **clipper ship** moved very fast through the water. These ships helped American merchants win a large share of the world's sea trade by the 1840s and 1850s. However, ships powered by steam soon replaced the clipper ships.

Steam was also used in other ways. By the 1830s, machines in factories began to use steam power. In earlier times, factories used water power and had to be built near swift rivers. Now, however, factories could be built anywhere.

GROWTH OF RAILROADS**REVIEW**

Answer the following questions on a separate sheet of paper.

1. What are three inventions that helped change farming and manufacturing in the North?
2. **Graph Skills** By about how many miles of track did the railroads grow between 1840 and 1860?