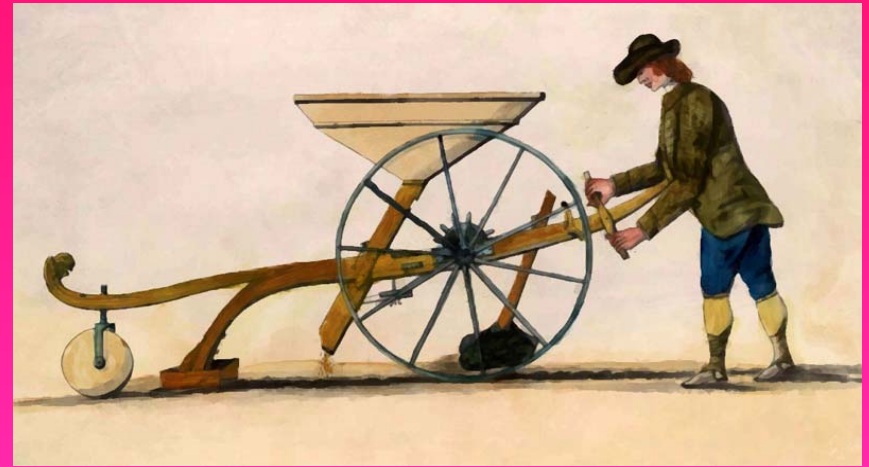


The Industrial Revolution and the Rise of the Factory System in Great Britain



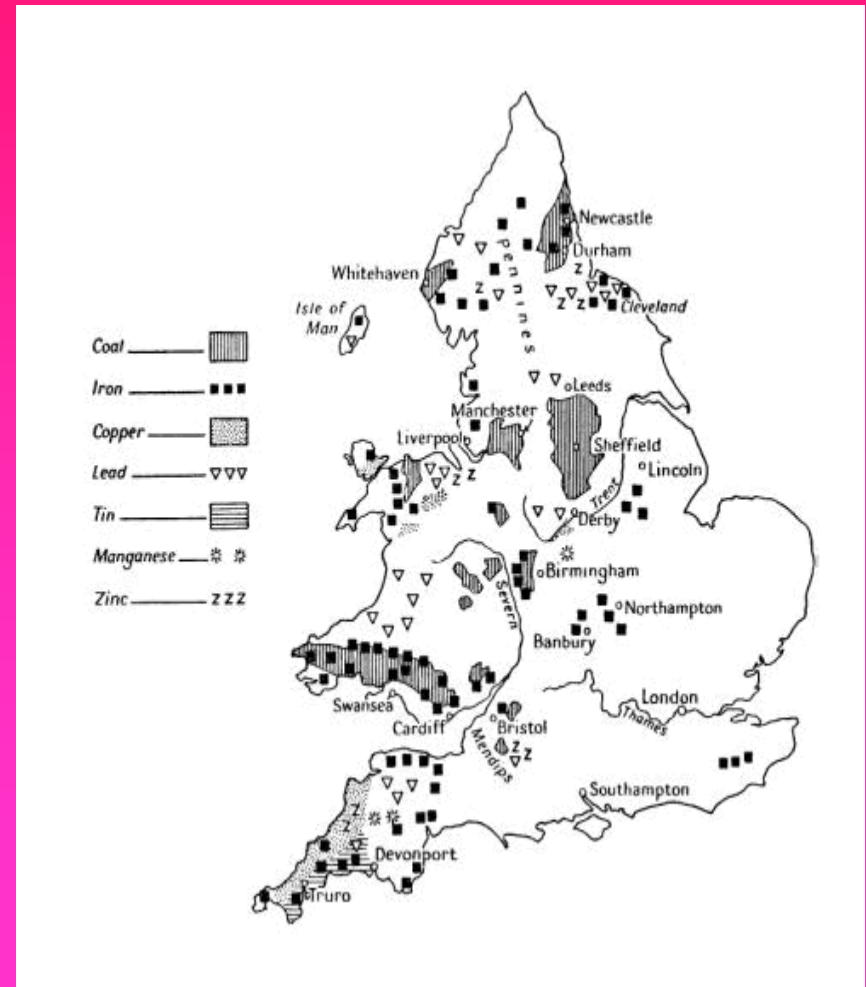
Industrial Revolution Began in Great Britain

- Agricultural revolution preceded and paved the way for the industrial revolution
- Food supplies increased, living conditions improved and Britain's population mushroomed
- Industrial revolution began in Britain because it had a large population of workers and the small island country had extensive natural resources



Great Britain had all the Factors Needed to be Successfully Industrialized

- An abundant supply of natural resources
- Favorable geography
- Favorable climate for new ideas
- An effective banking and financial system
- Political stability



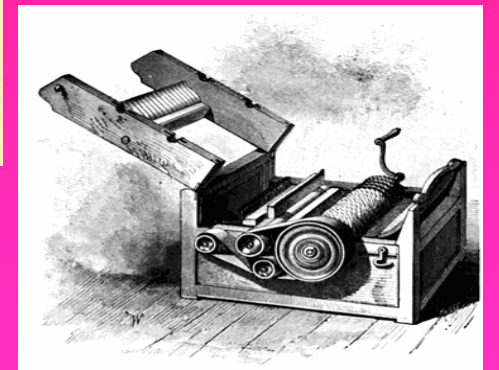
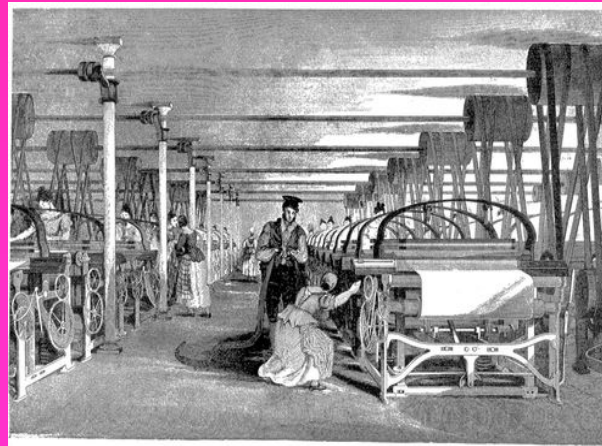
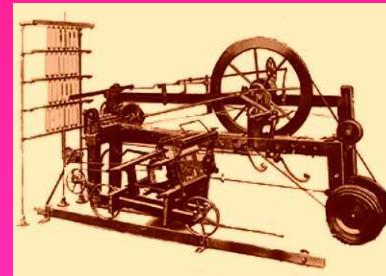
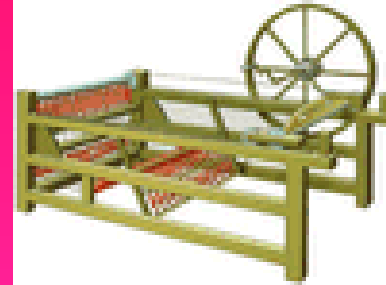
Natural Resources



- Water power for kinetic energy
- Coal as an energy source
- Iron ore and tin
- Water and coal provided energy to run machines
- Iron and tin were used to build machines, tools, and later buildings

New Inventions Lead to Textile Factories

- John Kay developed the flying shuttle, allowing weavers to work twice as fast
- James Hargrove developed the Spinning Jenny that could spin up to 80 threads at a time
- Richard Arkwright developed the water frame, utilizing water power to drive the spinning wheels
- Samuel Crompton's Spinning Mule combined the Spinning jenny and the water frame to make stronger and finer thread
- Eli Whitney's cotton gin removed the seeds from cotton and resulted in more cleaned cotton per day
- Edward Cartwright's power loom made weaving faster and ran on water power



Textile Industry Moves from Homes to Factories



- Cottage industry produced smaller amounts of work and goods
- New machines were large and ran off of water power which restricted their location
- James Watt and Matthew Bolton, Scottish entrepreneurs developed the steam engine that ran off of coal and could be placed where it was needed
- Wealthy merchants set up machines in factories
- The textile industry rapidly developed in Manchester, England

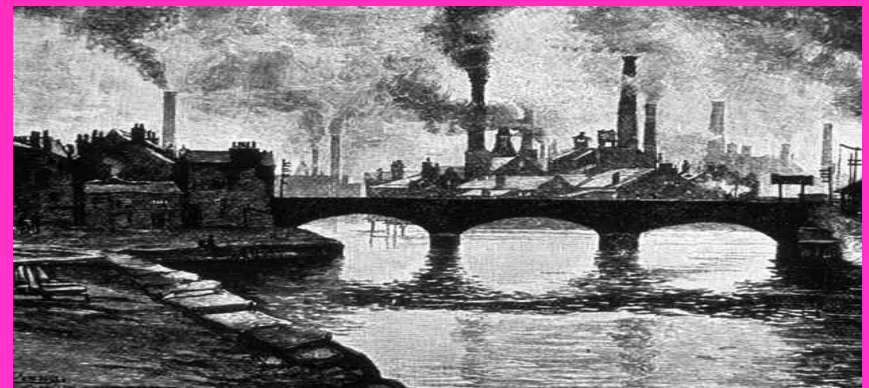
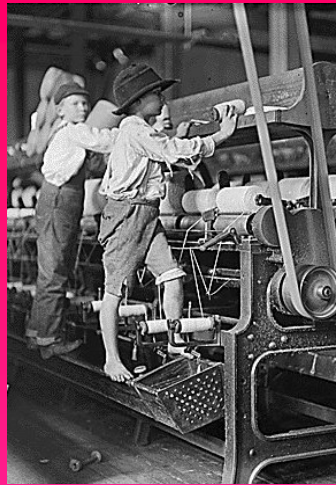
Industrial Cities Rise



- City populations in Europe grew rapidly between 1800 – 1850 during a period known as urbanization
- Factories developed in clusters because entrepreneurs built them near sources of energy, coal or water
- Manchester became the center of the British cotton industry
- Cities grew rapidly with no developmental plans for sanitation or building codes

Working Conditions

- Workers lived in dark dank shelters with entire families living in one room
- Sickness and disease were widespread in these living conditions
- Life span for industrial workers was half that of rural workers
- Workers, many of them children, worked 12 to 14 hours a day, six days a week
- Factories were dangerous with many machine injuries and foul air filled with lint and debris
- Manufacturers exploited labor with children and women because they could pay them less
- Exhausted children who fell asleep on the job were beaten
- So many factories in one area polluted the natural environment; the air was blackened by soot and coal dust, and the rivers ran various shades or colors depending on the textile dyes dumped into them



Effects of Industrialization

- Created many new jobs
- In the long-term workers won higher wages, shorter hours, and better working conditions
- Gave rise to a growing lower middle class of skilled workers; factory owners and merchants formed the rising upper middle class
- The standard of living rose
- Industry brought job seekers to the cities and many cities grew very rapidly in size
- The rapid growth of the cities gave rise to suburbs as people of means fled the crowded cities
- The unplanned and unsanitary conditions of cities brought changes in housing, diet, and improved clothing

