

Chapter 22 section 1

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The industrial revolution

Industrial revolution begins in Britain

New ways of working

- industrial revolution— greatly increases output of machine-made goods
- revolution begins in England in the middle 1700's

The agricultural revolution paves the way

- enclosures— large farm fields enclosed by fences or hedges
- wealthy landowners buy, enclosed by fences or hedges
- enclosures allow experimentation with new techniques

Rotating crops

- crop rotation- switching crops each year to avoid depleting the soil
- livestock breeders allow only the best to breed, improve food supply

Why the industrial revolution began in England

- industrialization-move to machine production of goods
- Britain had natural resources- coal, iron, rivers, harbors
- expanding economy in Britain encourages investment
- Britain has all needed factors of production- land, labor, capital

Inventions spur industrialization

Changes in textile industry

- weavers work faster with flying shuttles and spinning jennies
- water frame uses water power to drive spinning wheels
- power loom, spinning rule speed up production, improve quality
- factories- buildings that contain machinery for manufacturing
- cotton gin boosts American cotton production to meet British demand

Improvements in transportation

Watt's steam engine

- need for cheap, convenient power spurs development of steam engine
- James watt improves steam engine, financed by Matthew Boulton
- Boulton and entrepreneur- organizes, manages, takes business risks

Water transportation

- Robert Fulton builds first steamboat, the *Clermont*, in 1807
- England's water transport improved by system of canals

Road transportation

- British roads scarce improved; companies operate them as toll roads

The railway age begins

Steam-driven locomotives

- in 1804, Richard Trevithick builds first steam-driven locomotive
- in 1825, George Stephenson builds world's first railroad lines

The Liverpool-Manchester railroad

- entrepreneur build railroad from Liverpool to Manchester
- Stephenson Rocket acknowledged as best locomotive (1829)

Railroads revolutionize life in Britain

- railroads spur industrial growth, create jobs
- cheaper transportation boosts many industries; people move to cities