

AGRICULTURAL REVOLUTION

Economic & Scientific Change

1. Enclosure Movement

- a. Large landowners shutout smaller farmers
- b. Small farmers mass migrate to urban centers

2. Improvements in technology

- a. 1701: Jethro Tull, **Seed Drill** helps minimize waste in planting
- b. 1700s: Charles Townsend, **4-Crop Rotation** method improves soil productivity

TEXTILE IMPROVEMENTS

New Inventions give major increase in cloth production

1. 1733: John Kay, **Flying Shuttle** doubles weavers output
2. 1764: James Hargreaves, **Spinning Jenny** helps keep up with need for more thread
3. 1769: Richard Arkwright brings power from water to spinning wheels
4. 1779: Samuel Crompton combines **water frame** with Spinning Jenny
5. 1787: Edmund Cartwright invents **Power Loom**

British Advantages

1. **Urban population** supports cheap labor structure
2. **Natural resources**, coal, iron, water
3. **Inland water ways** provide water power and transport routes
4. **Harbors**, shipping easy to markets
5. **Banking**, network of available capital
6. **Political stability** since 1688
7. **Inventions**

Power: Coal heats it up

1. 1765: James Watt invents **steam engine**
2. 1807: Robert Fulton, first **steam boat** trip on Hudson River
3. 1804: Richard Trevithick develops first **steam powered locomotive**
4. 1821: George Stevenson develops first **railway** line

INDUSTRIAL REVOLUTION

Size of cities

- Job seekers mass to cities where factories give opportunities
- Urban areas triple and quadruple in size
- Factories develop near resources (water, coal fields)
- New industrial cities specialize in certain types of production

Living conditions

- No sanitary codes or building controls
- Lack of housing, education or police protection
- Lack of clean water and indoor plumbing
- Disease epidemics frequently ravage slums
- Dickens' novels

Working conditions

- Industrialization creates new jobs
- Workers try to keep pace with new machines
- Factories are dirty and unsanitary
- Dangerous machines, unsafe working
- Hard and severe factory discipline

Social class

- Growing middle class of factory owners, shippers, merchants and managers
- Upper class aristocracy is resentful of rich middle class
- Lower middle class of overseers and skilled workers
- Workers underpaid and overworked
- Rising standard of living though some excluded