

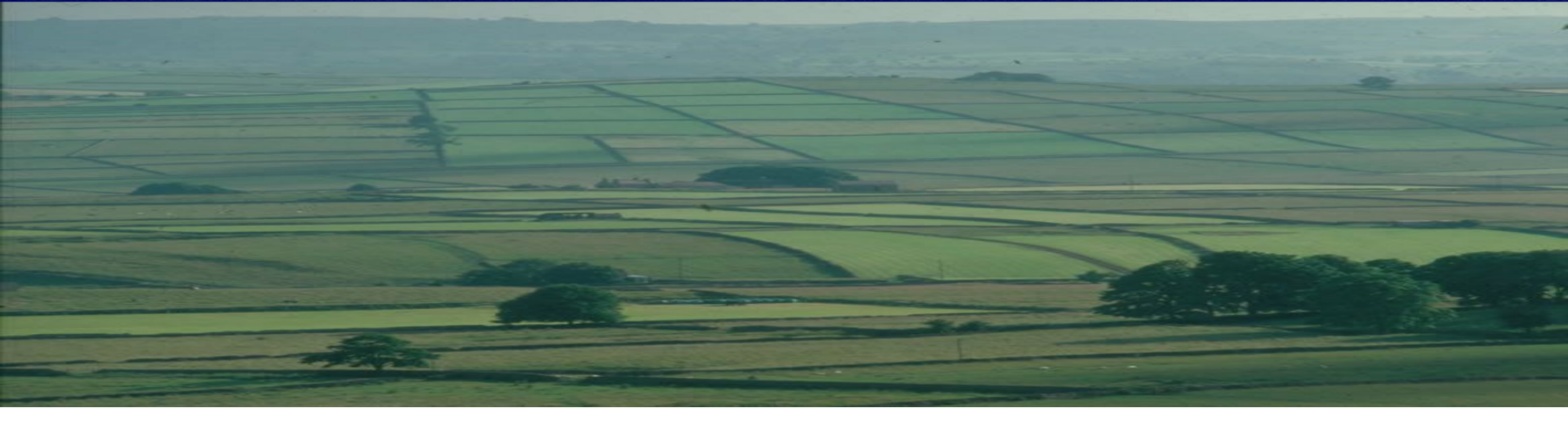
INDUSTRIAL REVOLUTION

(INDUSTRIAL CHANGE)

The Era in the 1700s, in *Great Britain*, where there was a shift from **muscle power** to **machine power** (homemade to factory made)



Preceding the Industrial Revolution: Agricultural Revolution

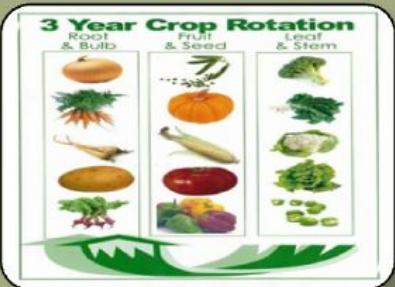


Factors Aiding Industrial Growth: Efficient Farming Practices



Farming Inventions

- Farming Inventions
- Jethro Tull's Seed Drill – plant seeds in a row with horse drawn planter
- EFFICIENT Farming=quicker & neater planting=Increased Production (food surplus)
- Consequence: Need more land



Crop Rotation

- Makes farming a "science" – growing crops in different field each year to prevent soil erosion & keep soil fertile
- Replenishes nutrients=EFFICIENT production
- Creates a food surplus=Increased Population
- Consequence: Need more land



Livestock Breeding

- Makes breeding livestock a "science" with selective breeding
- Assures weight and quantity of livestock will double
- Creates a food surplus=Increased Population

A wide-angle, high-angle photograph of a lush, green grassy field. The grass is vibrant and dense, covering the entire ground. The horizon is a straight line in the distance, and the sky is not visible, suggesting a very bright or clear day. The overall scene is peaceful and expansive.

Which leads to...

Factors Aiding Industrial Growth: Enclosure Movement

Enclosure Movement

- Process of taking over and fencing off land formerly shared by peasant farmers into 1 large private farm
- What caused this to happen...why would farmers need more space??

Consequences

- Deprived small farmers of land and livelihood
- Larger Fields=more output (**FOOD SURPLUS**) – don't need many small farms anymore
- **NOW WHAT??**

Displacement of ex-farmers & peasants

- Ex-farmers and peasants need to find work
- Where are they going to go? **YOU TELL ME?**

Enclosure Movement leads to Urbanization

Using Efficient Method to Farm (b/c of agricultural rev'n)

Created Food Surplus

Decreased need for poor farmers and peasants

Poor farmers and peasants (laborers) move to CITIES for work in new factories sprouting up

RURAL TO URBAN MIGRATION

URBANIZATION: growth of cities

**At the same
time...Industrial
Growth (factories) in
Cities is Occurring!**



Factors Aiding Industrial Growth: Energy Revolution



Energy Usage

- Coal was used to power the first steam engine (James Watts-1769)
- By 1780 rail lines crosses throughout Britain, Europe and Eastern North American

Also...

- Great Britain's geography beneficially
 - Coal & Waterways were vital power sources
 - Machines, Factories, Etc.
 - Natural Resources galore

Consequences

- Improved and encouraged transportation (rural to urban migration) and TRADE
- Increased factory production
- New source of work
- Industry continues to grow...

**Why did Britain
lead the way in
industrial
growth??**

Factors Aiding in Industrial Growth: Britain possessed the **FACTORS OF PRODUCTION**

Land – natural resources (needed for industry – coal=fuel; iron-steel & machinery, water)

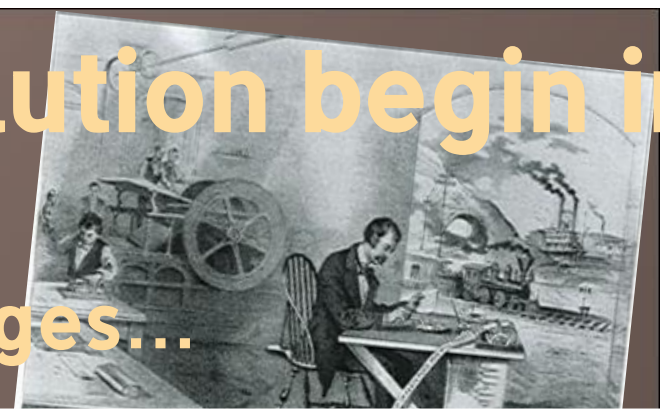
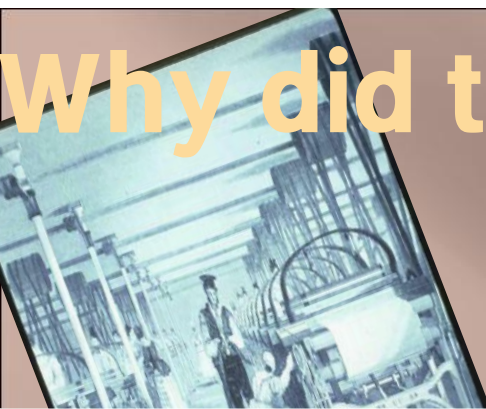
Economic Factors

Capital – funds of investment (prosperous country, people had money to spend)

Labor – people available to work (human capital)
WHY SO MUCH?

Why did the Industrial Revolution begin in Britain?

Britain had many advantages...

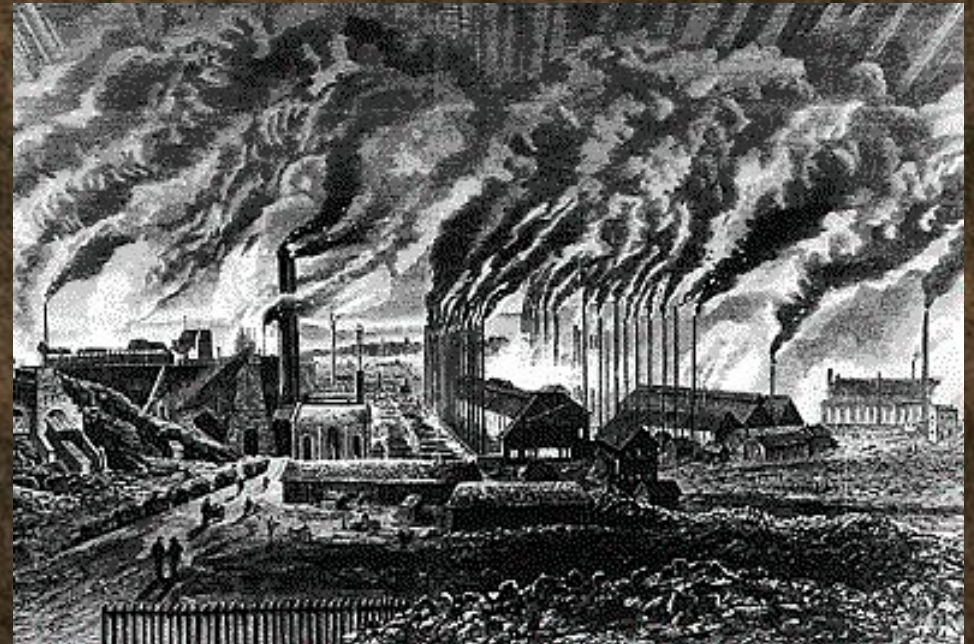
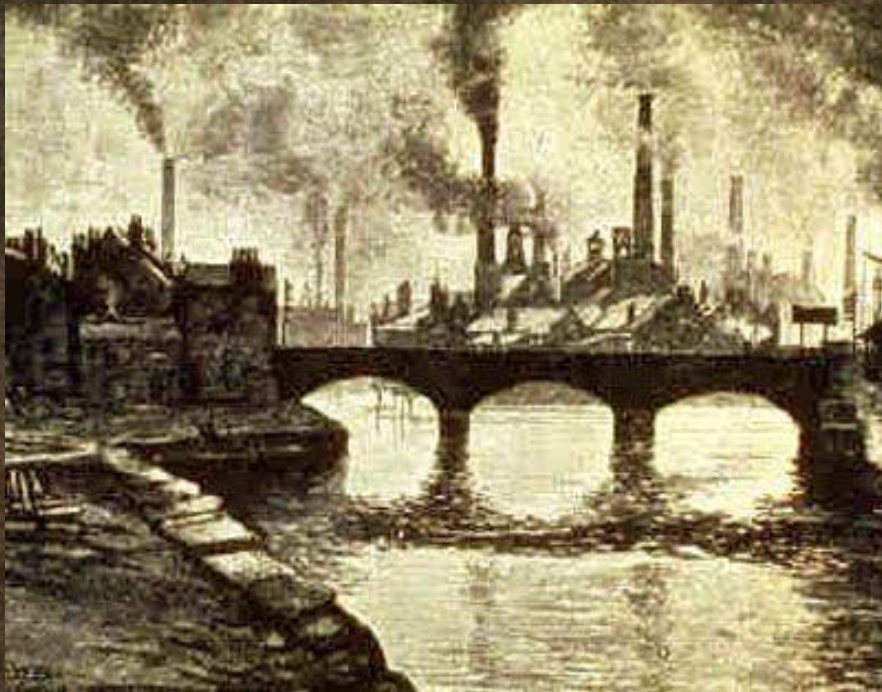


LAND	LABOR	CAPITAL
<p><u>Materials</u> – natural resources: coal for fuel, iron ore for steel, sheep for wool, and other resources for production</p>	<p><u>Manpower</u> – population boom, city workers – b/c of Enclosure Movement</p>	<p><u>Money</u> – wealthy nation from trade and war to invest, stable banking and credit system encourages innovation (new inventions),</p>
<p><u>Markets</u> – large colonial empire</p>	<p><u>Entrepreneurs</u> – Business owners interested in investing money for factory growth</p>	<p><u>Colonies</u> – place to sell goods (increase demand for British goods—markets)</p>
<p><u>Modes of Transportation</u> – roads, rail, shipping</p>		<p><u>Entrepreneurs</u> – Wealthy individuals ready to start business (with own money) to turn profit</p>
<p><u>Colonies</u> – imported raw materials (cotton from India & US)</p>		<p><u>Stable Government</u> – with laissez-faire policies (“lazy government”)—government friendly economy to support profit motive – encourages/promotes wealth through business growth</p>

Great Britain moves from a COTTAGE INDUSTRY...



... to a FACTORY SYSTEM



THE COTTAGE INDUSTRY

British Cloth (Textile Industry)

- Most important business activity in 18th century Britain
- Most work was done out of homes = **Cottage Industry**
- Woven cloth = sold to merchants
- Merchants sold in towns & exported to others including America
- **QUALITY** over Quantity
(WHY?)



Britain Led the Rise of Industry Because...

One invention led to another...Flying Shuttle,
Spinning Jenny, Water Frame, Spinning
Mule, Power Loom, Cotton Gin

These inventions were too expensive for home
use.

So Great Britain changed
to...



Great Britain Led the Rise of Industry

- Welcome to Factory Life!
- QUANTITY over Quality (PROFIT MOTIVE)
 - Assembly Line=Mass Production
 - Long Hours (12-14 hour days)
 - No Job Security
 - Women and Children
 - Low Wages – influx of workers
 - Poor Work Conditions – no safety regulations & harsh punishment for slacking
 - No Benefits or Breaks

Increased Cotton and Linen
Output:

1785 = 40 million yards

1850 = 2 billion yards!



Effects of the Industrial Revolution: Urban Life

- **Factory Life**
 - Hazards of factory life
 - Long work days (12-16 hours)
 - No safety devices (loss of limbs, lives)
 - Pollution (coal dust, lint into lungs of workers)
 - Poor ventilation & sanitation
 - No safety = Laissez-Faire
 - Low wages – no minimum wage
 - Women & children paid less than men (preferred)
 - Child labor
 - Small hands=perfect for cloth, threading machine problems
 - Necessity=families trying to flee poverty (farmers), etc
 - Dangerous work=worked while machines still ran
 - 60% of children died before age 5



More Children Workers: What are some trends?

Age of Worker	Male	Female
Under age 11	246	155
11-16	1169	1123
17-21	736	1240
22-26	612	780
27-31	355	295
32-36	215	100
37-41	168	81
42-46	98	38
47-51	88	23
52-56	41	4

Effects of the Industrial Revolution: Economic

- UNIONS
 - Laissez-faire
 - **Why is this important?**
 - Workers want rights & better conditions
 - Organize to represent the interests of workers – opposed by factory owners
 - **WHY?**
 - Better Hours, Better Pay, Better Conditions, Better Benefits



A black and white photograph of a tenement building. The building is multi-story, constructed of wood, and has a fire escape on the left side. A person is visible on the roof of the building. The text "Urbanization Growth of Cities" is overlaid in yellow on the image.

Urbanization Growth of Cities

URBANIZATION: Let's Review

Movement toward cities to work in the factories led to the *Growth of Cities*

Did they move to cities by choice?

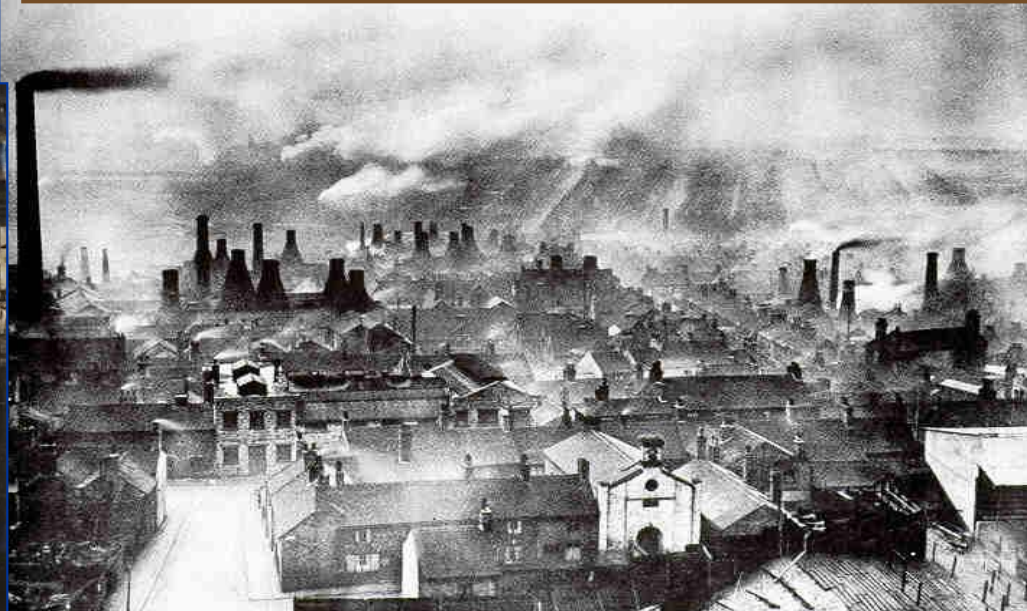
YES:

NO:



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Effects of the Industrial Revolution: Urban Life

□ THE SLUMS

- Increased population=overcrowded
 - Manchester: 17,000 in 1750...40,000 in 1780...70,000 in 1801!
- Increased pollution=poor sanitation & increased burning of coal
 - No social services!
- Dirty & disease ridden from factories
- Tenement housing: shabby apartment buildings (normally OWNED by FACTORIES)
 - No light; no running water; one room; no heat; no sanitation system
 - 2 toilets for every 250 residents!
 - Throw garbage and waste out into the **ALLEYWAYS**
 - Rats, Garbage, Crowded, Waste, Cramped, Muddy



Effects of the Industrial Revolution: Urban Life

□ URBAN MARKET

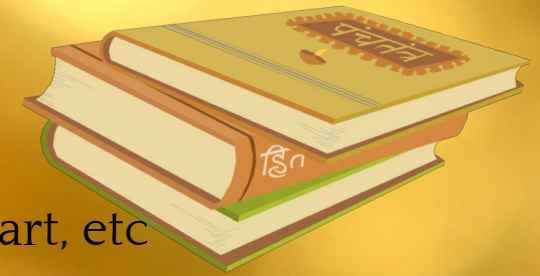
- Center of urban life
 - Buying and Selling Goods
 - Offices, stores, government seat, etc.
- Brick streets
- TRADE
 - Imports & Exports
 - **WHAT?**
- Transportation – waterways, railways, trolleys, carriages, etc.
- Emigration v. Immigration



Effects of the Industrial Revolution: Middle Class

□ MIDDLE CLASS LIFE

- Higher incomes=Material Comfort
 - Servants, homes, décor, clothing, etc
- Leisure time
 - Recreation – sports, games, vacation, music, reading, art, etc
- Increased STANDARD OF LIVING
 - Medicine
 - Lowered infant mortality rate



□ SUBURBS

- Desire to move outside of urban areas
 - Could afford trolleys, carriages, buses, cars, etc to get back and forth
- The Suburbs (outskirts of city)
 - Cookie-cutter houses
 - Yards with fences
 - Quieter
 - Cleaner
 - Two-story homes



Spread of Industrialization

CAPITALISM: freedom of economic activity (free enterprise)

- **Laissez-Faire**—Keep government out of business affairs
- Allow consumer to determine market
- Goal of Business: **MAKE MONEY**

Britain Guards Knowledge:

- Outlaws machine export
- Forbid skilled craftsman from leaving country (Sam Slater)



The Industrial Revolution led to economic, social, and political reforms

- Economic Reforms–
unions, collective bargaining, strikes
- Social Reforms–
eventual end of child labor
new wage earning classes from the factory workers
- Political Reforms–
Laws were passed with the workers in mind (anti-trust = antimonopoly)