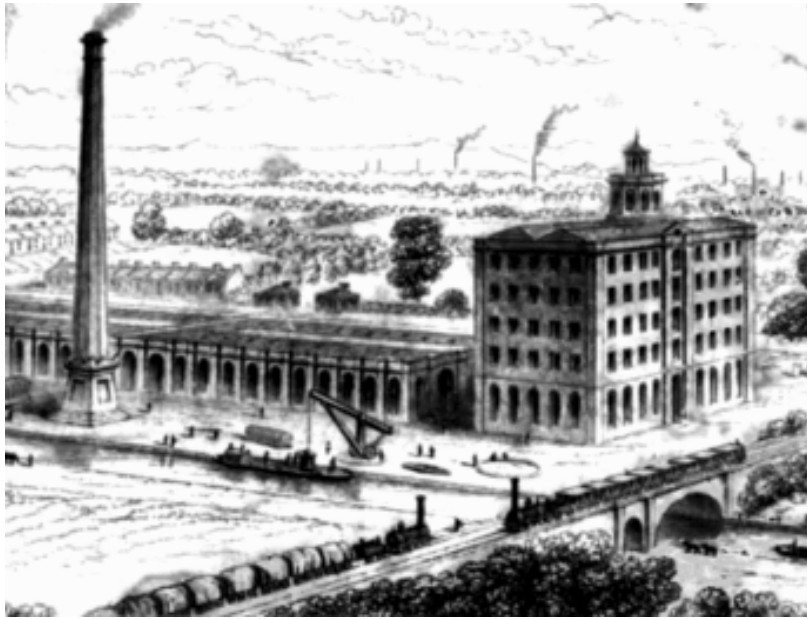
ANALYZING DATA FROM THE FIRST INDUSTRIAL REVOLUTION: A STATISTICAL APPROACH

LESSON GOALS



Today, you won't read a story — you'll read **charts, graphs, and statistics**.

You'll look at how things changed: population, production, and more.

- Your job: **Figure out what the numbers reveal.**

UNDERSTANDING HISTORICAL DATA TYPES

Different forms of statistical evidence:

- Population Graphs
- Manufacturing Charts
- Education Data

- Why data matters: Provides concrete evidence of historical changes.

- Key skill: Converting raw numbers into meaningful insights.

DRAWING EVIDENCE-BASED CONCLUSIONS

Steps for analyzing historical data:

- Identify the type of data
- Note the time period and location
- Look for patterns and trends
- Consider causes and effects
- Support conclusions with specific numbers

Common pitfalls to avoid:

- Making assumptions without evidence
- Ignoring contextual factors
- Misinterpreting scales and units

DATA ANALYSIS

Questions to consider when doing Data Analysis:

- What changed the most dramatically?
- Which changes happened fastest?
- What patterns suggest cause and effect?

Remember: Always cite specific numbers to support your claims

DATA PRESENTATIONS EXAMPLES OF THE INDUSTRIAL REVOLUTION

Common data presentations:		
Graphs showing production changes	Bar charts comparing output between regions	Percentage increases over time as shown in charts

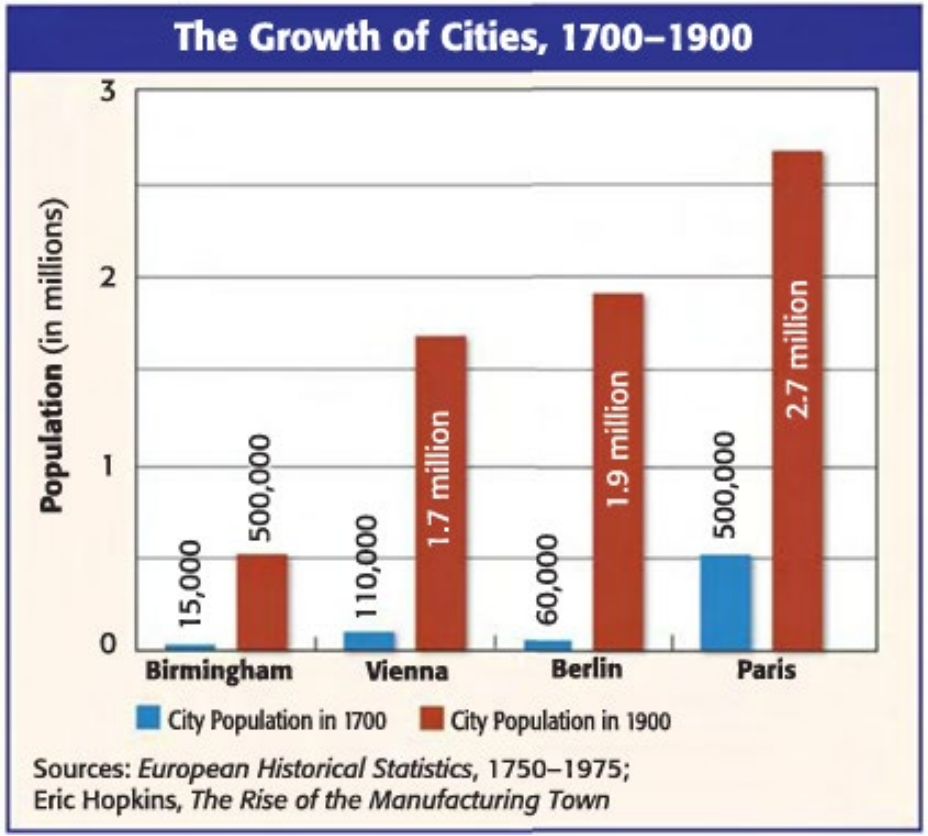
Important factors to consider:		
Scale of measurement	Timeframes	Regional variations

Practice question: "If coal production doubled every 20 years, how many times more would it be after 60 years?"

Answer: It would be **8 times more** (doubled 3 times: 2 → 4 → 8)

THEMATIC DATA REVIEW

Review and take notes to help analyze each graph and chart related to the Industrial Revolution.



POPULATION AND URBAN GROWTH

Review both axis (y and x), the key, and the title to determine what the graph is conveying.

Analyze these components of the graph:

1. The size of the populations both represented before and after the Industrial Revolution.
2. Which cities were the most and least populated in both time frames.

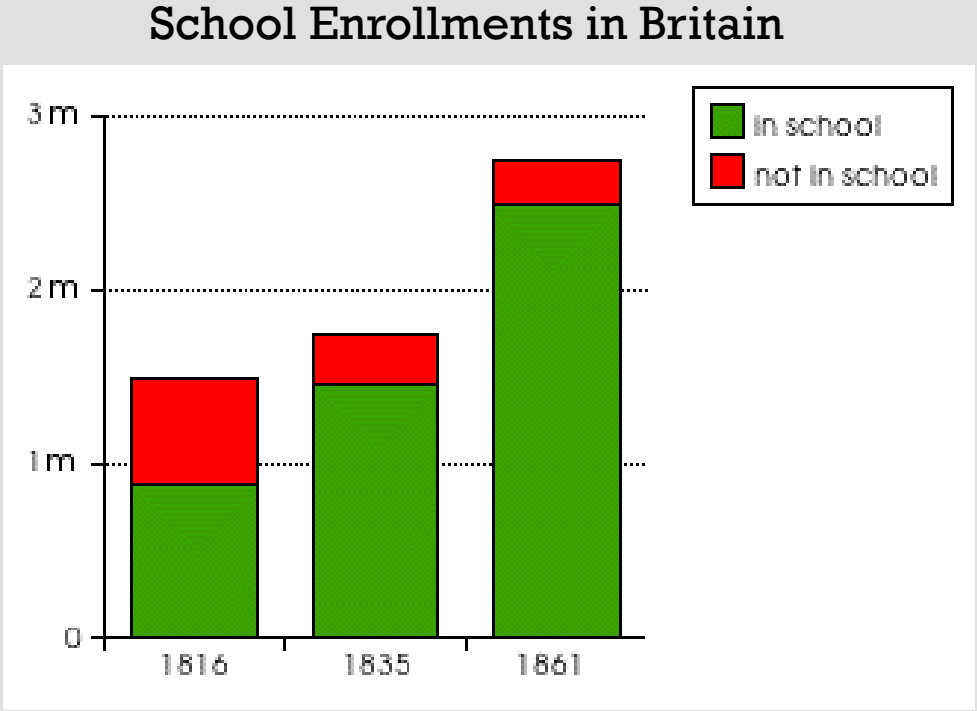
Share of total world manufacturing output (percentage)					
	1750	1800	1860	1880	1900
Europe	23.2	28.1	53.2	61.3	62.0
United States	0.1	0.8	7.2	14.7	23.6
Japan	3.8	3.5	2.6	2.4	2.4
Rest of the world	73.0	67.7	36.6	20.9	11.0

PRODUCTION AND MANUFACTURING

Review the columns, rows, and the title of the chart to determine what topic the information represents.

Analyze these components of the graph:

1. Determine the growth or decline of each country's manufacturing output.
    1. Which increased?
    2. Which declined?
2. Compare the rates of change.
    1. Which regions changed the most?



EDUCATION

Review both axis (y and x), the key, and the title to determine what the graph is conveying.

Analyze these components of the graph:

1. What do the green and red bars represent?
2. What trend do you see in the number of children attending school vs. not attending school?

Once you review your notes and reflections about each of the graphs, prepare for the Section Test.