

FACTORS BEHIND INDUSTRIAL GROWTH

FACTOR 1 : A growing population

Source 1 : Table showing population growth (in millions)

Date	England	England and Wales	Scotland	Ireland
1701	5.06	5.30	1.04	2.54
1751	5.77	6.50	1.25	3.12
1761	6.15	6.70	---	---
1771	6.45	7.20	---	---
1781	7.04	7.50	---	---
1791	7.74	8.25	1.50	4.75
1801	8.66	9.20	1.60	5.22
1811	9.89	10.20	1.80	6.00
1821	11.49	12.00	2.10	6.80
1831	13.28	13.90	2.40	7.80
1841	14.97	15.90	2.60	8.20
1851	16.74	17.90	2.90	6.50

Source : E.A. Wrigley and R.S. Schofield, *The population history of England 1541-1871 : a reconstitution*, London, 1981, Cambridge, 1989.

Source 2 : Table showing births and deaths per thousand for England

Year	Birth rate	Death rate
1701	34.2	26.7
1751	34.2	26.3
1761	34.8	26.5
1771	35.2	27.2
1781	35.5	29.7
1791	38.4	25.4
1801	33.9	28.1
1811	40.0	26.5
1821	40.9	23.4
1831	35.2	22.5
1841	36.0	22.0
1851	36.4	22.1

Source : E.A. Wrigley and R.S. Schofield, *The population history of England 1541-1871 : a reconstitution*, London, 1981, Cambridge, 1989.

Source 3 : Table showing the average age of first marriage in England 1700-1850

Period	Male	Female
1700-49	28.1	27.0
1750-99	27.1	25.4
1800-49	26.5	24.3

Source : E.A. Wrigley, "Age of marriage in Early Modern England", quoted in R. Floud and D. McCloskey, *The Economic History of Britain since 1700*, vol. 1 : 1700-1981.

Source 4 : Table showing the average age at death

	Gentry Professional	Farmer Trader	Labourer Artisan
Rural Districts			
Rutland	52	41	38
Bath	55	37	25
Industrial Districts			
Leeds	44	27	19
Manchester	38	20	17

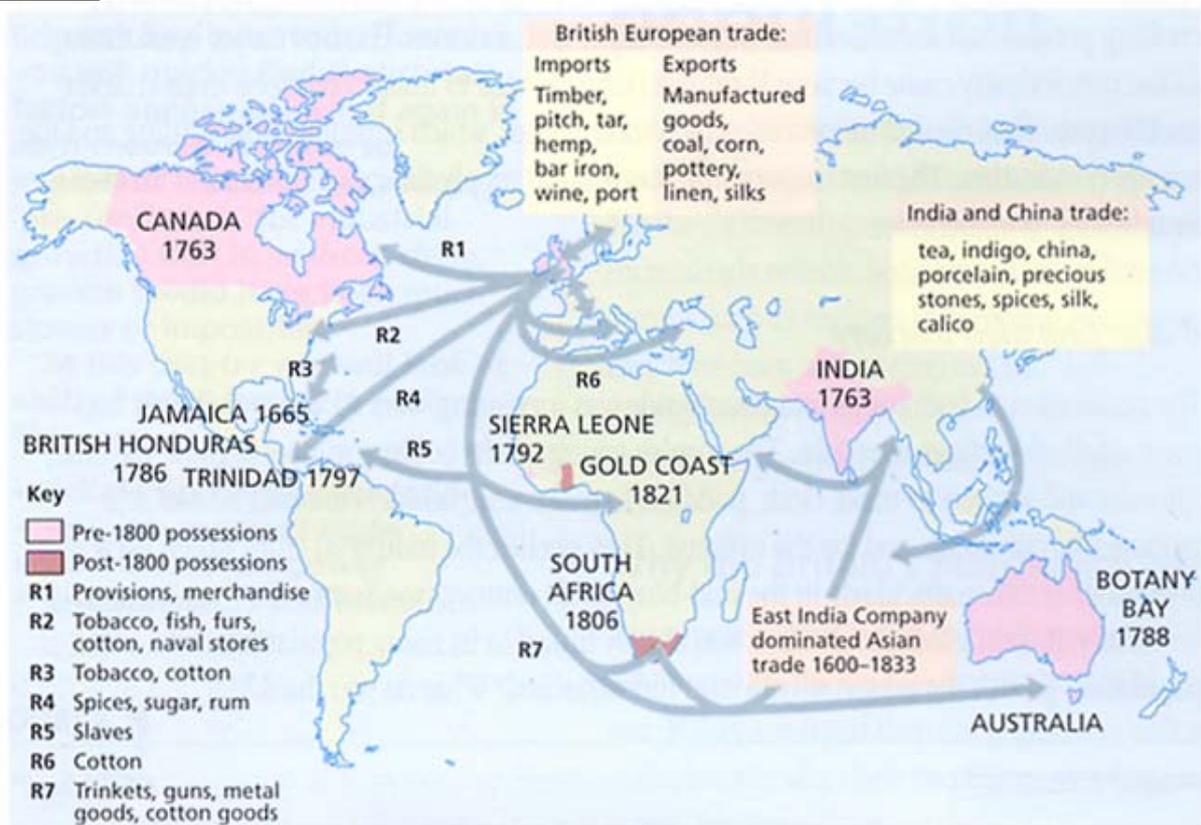
Source : *The Lancet*, British medical journal, founded and edited by Thomas Wakley, medical reformer, 1843.

Questions :

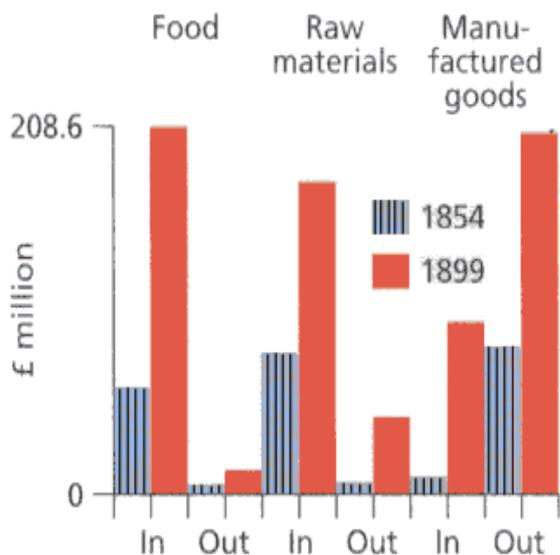
1. Present the documents.
2. Draw a graph, using the figures from source 1 and another graph using the figures from source 2
3. Describe the demographic development of Britain between 1700 and 1850. (source 1)
4. What is the link between sources 2 and 3 ? Are these sources sufficient to explain growing population ? Explain your answer using the sources and your personnel knowledge (refer to French history seen last year)
5. England's demographic growth in this period has often been taken as the norm for growth in the British Isles. Do you think it is accurate everywhere and for everybody ? (sources 1 and 4)

FACTOR 2 : Overseas trade

Source 1 :



The British Empire in the eighteenth century.



British imports and exports by category in the second half of the nineteenth century.

Source 2 : British imports and exports by category in the second half of the nineteenth century

Source 3 : Written in 1795 by J. Wallace in *A General and Descriptive history of the town of Liverpool*

"Is is well known that many small vessels that carry 100 slaves are paid for by attornies, drapers, ropers, grocers, barbers and tailors."

Source 4 : Written by a historian, J.F. Nicholls, in 1881.

"There is not a brick in Bristol that was not cemented with the blood of a slave. Sumptuous mansions and luxurious living was made from the sufferings and groans of the slaves bought and sold by Bristol merchants."

Source 5 : Written in 1907 by a historian, R. Muir, in *A History of Liverpool*.

"The slave trade helped every industry, provided the money for docks, enriched and employed the mills of Lancashire. Beyond a doubt, it was the slave trade which raised Liverpool from a struggling port to be one of the richest and most prosperous trading centres in the world."

Questions

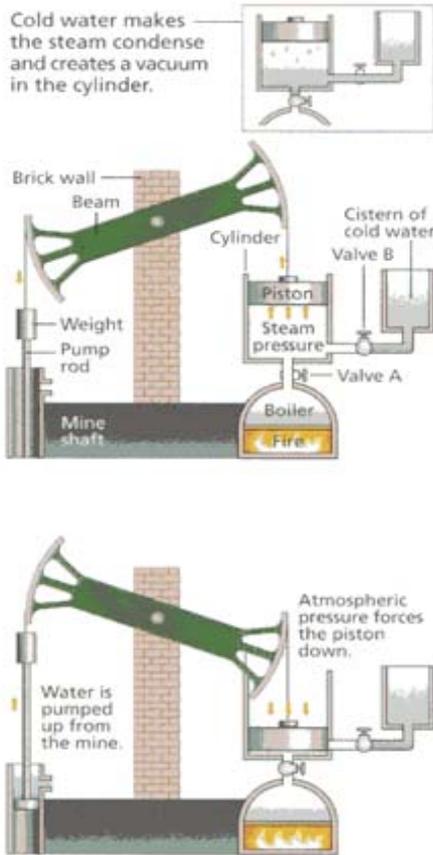
1. Describe the British Empire in the eighteenth and nineteenth century.
2. Why was this Empire so profitable for Britain (source 1 and last year's lesson on the American colonies) ?
3. Why was the slave trade especially profitable ? (source 1, 3, 4, 5 and last year's lesson on the American colonies)
4. How did the British trade contribute to the growth of the harbour towns ? (source 5).

FACTOR 3 : Steam power

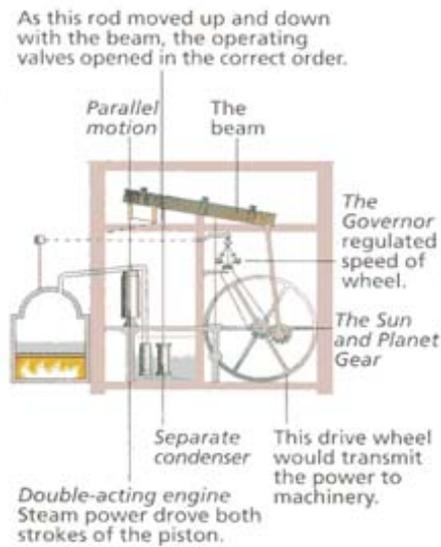
Early factories were all water-powered to drive the first machines. However, water posed many problems. List the disadvantages of this energy :

- In winter the water _____
- In summer water _____
- Water power could not drive the _____ machines
- Most of the water-powered sites were in _____, awkward places for recruiting _____, transporting _____ to the mills and the _____ away from them
- Suitable sites were running _____ by 1800
- Landowners had realised the potential earnings and were charging for the _____ draw water.

Source 1 : Newcomen’s steam engine (1712) – Boulton and Watt’s steam engine (1782)



A How Newcomen’s engine worked.



B How Watt’s rotary engine worked.

Source 2 : Adapted from a letter from Boulton to Watt, written in 1781
 “The people in London, Manchester and Birmingham are steam mill mad ... The most likely line for the use of our engines is in the mills which is certainly a sizeable field.”

What was the main technical difference between the two steam machines ?

What were the advantages of steam power ?

- It was flexible : you could use it _____ you liked as long as you could get _____
- It was powerful : the biggest steam engines gave power equivalent to _____
- It was reliable : after many improvements steam power could work machines _____ through freeze and drought.

Explain why steam power forced the mills and factories to settle close to coalfields.

All around Britain, inventors devised new uses for the steam machines. Which ones ?

- _____
- _____
- _____
- _____

Would you say that steam power is an essential factor explaining Britain’s industrial revolution ? Explain your answer.

FACTOR 4 : Entrepreneurs and investors

Entrepreneurs :

Industrial development was possible because some men had business ideas and were ready to take risks to try them out. In the eighteenth and nineteenth centuries, a lot of business men (and a few women) succeeded and twice as much failed.

Investors :

They lent the money to the entrepreneurs who didn't have enough personal money. And Britain was the first European country with a bank system : the Royal exchange established in London in 1566.

Some of the entrepreneurs below have played an important part in Britain's industrial revolution. We have already met James Watt. Let's meet the others.

