Industrialization

Increasing efficiency by shifting from hands to machines

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| **Context:** What incentives prompted Englishmen to invent machines? |

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| **Why Britain**?: What were the conditions made the Industrial Revolution possible? 1. Natural resources:
2. Transportation:
3. Population:
4. Capital (money):
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| Problem |  | Solution |
| How do you produce more cloth for clothing?  |  | **Inventor:** John Kay**Invention:** **Purpose:**  |
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| How do you meet the demand for more thread?  |  | **Inventor:** James Hargreaves**Invention:** **Purpose:**  |
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| How do you further increase production of thread? |  | **Inventor:** Richard Arkwright**Invention:** **Purpose:**  |
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| How do you further increase production of cloth? |  | **Inventor:** Edmund Cartwright**Invention:** **Purpose:**  |
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| What was the social impact of these inventions? |

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| **Context:** What incentives prompted Englishmen to invent machines?With the population explosion, there was a greater demand for clothing. This was an incentive for entrepreneurs find ways to make the textile industry more efficient.  |

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| **Why Britain**?: What were the conditions made the Industrial Revolution possible? 1. Natural resources: fossil fuels and iron
2. Transportation: Rivers and canals
3. Population: Large labor force
4. Capital (money): Strong system of banking, credit and insurance
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| Problem |  | Solution |
| How do you produce more cloth for clothing?  |  | **Inventor:** John Kay**Invention:** The flying shuttle**Purpose:** The shuttle helped weavers move the thread across the loom quickly in order to produce twice as much cloth.  |
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| How do you meet the demand for more thread?  |  | **Inventor:** James Hargreaves**Invention:** The spinning jenny**Purpose:** A spinner could spin multiple threads at once increasing the production of thread six-fold. Improvements were made to increase the number of spindles up to 100.  |
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| How do you further increase production of thread? |  | **Inventor:** Richard Arkwright**Invention:** The water frame**Purpose:** The new spinning machine was developed to work by a water wheel.  |
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| How do you further increase production of cloth? |  | **Inventor:** Edmund Cartwright**Invention:** The power loom**Purpose:** The power loom was faster and larger than home looms and therefore could produce more fabric.  |
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| What was the social impact of these inventions?Spinners and weavers feared these new inventions because they would put them out of job and attempted to destroy these inventions. Unable to compete with machines, people transitioned from their homes—the domestic system—to new working environments—the factory system. Factories that were driven by the capacity of the machines and around a schedule.  |