TEXTILE INDUSTRY AND THE FACTORY SYSTEM
What might be the advantages of factory weaving over cottage industry weaving?
This is a picture of workers at the mule-spinning machines making cotton cloth in an English textile mill in 1834.
The Textile Industry Invented

Textiles: any cloth or goods produced by weaving, knitting or felting.

The textile industry developed as a way to solve the problems of the putting-out system (cottage industries) and increase productivity and efficiency. The markets continued to demand more cloth, and the rural workers spinning yarn by hand and weaving cloth on a hand loom could not keep up.
Textile Industry Invented:

- Cottage industry couldn't keep up with the demand for textiles.
1767: James Hargreaves invented a compound spinning wheel. It was able to spin 16 threads at one time. He named this invention the Spinning Jenny, after his wife, Jenny.
1769: Richard Arkwright improved on the spinning wheel with his invention of the water frame. This machine involved winding thread through four pairs of rollers operating at varying speeds.
What powers the water frame?
A water wheel powered the water frame.
What might be the advantages of the water frame?
What might be the disadvantages of the water frame?
1779: Samuel Crompton made a further improvement on the spinning wheel. By using the mobile carriage of the spinning jenny and the rollers of the water frame, Crompton created a new machine that was able to spin strong yarn, yet also thin enough to be used in the finest fabrics. He named this machine the mule.
What might be an advantage of this machine?

What might be a disadvantage?
In 1785, Rev. Edmund Cartwright, invented the power loom. This increased the speed of weaving with power – at first water power, then steam power. Power was used at all stages of the weaving process – raising and lowering of threads, throwing of the shuttle, and unwinding of the cloth.
Can you think of advantages of this machine? Disadvantages?
In 1793, Eli Whitney, an American, invented the cotton gin. This machine used metal spikes on a revolving cylinder to separate cotton from the seeds.
Notes:
Inventions:
- James Hargreaves: 1767 Spinning Jenny, which allowed more thread to be spun
- Richard Arkwright: 1769 water frame, which improved the spinning jenny
- Samuel Crompton: 1779 spinning mule, which used water power
- Edmund Cartwright: 1785 power loom, which used water power to weave.
- Eli Whitney: 1793 cotton gin and interchangeable parts
- Each invention improved upon another.
So, think a minute.

Each invention improved upon the previous invention. The spinning jenny spun more thread, faster. The water frame improved the spinning jenny. Each invention was created to solve the problems of an earlier invention. A new innovation sparked other innovations.
The result – the machines became larger, faster, and more expensive. They also started to operate more on power rather than by hand.

So what developed?
FACTORIES!!!!
Merchants and investors began to invest in factories, which were places that could hold the large, faster machines. Factories also needed to be next to sources of power, which at first meant near running water. Later they were located near coal, which produced steam, and iron, which was used to make the steam engines.

What did this mean to the cottage industries?
Ultimately, the rise of the factories and the textile industry irrevocable changed rural society and effectively ended the era of the cottage industry.

Those who continued to work at home, spinning and weaving by hand, received less and less money for their work.
In 1815, 250,000 hand-loom weavers remained.

In 1850, there were 40,000 hand-loom weavers, and in 1860, only 3,000.

Since many of the rural workers lost part of their income, many were forced to leave their farming towns for work in the factories.
Advantages of factories:

- Output increased tremendously! More textiles were available.
- England became the cotton manufacturing center of the world.
- The quality was consistent.
- Prices of mass-produced textiles dropped, because they could be produced faster than hand-produced garments.
Disadvantages of factories:

- Workers could no longer work their own hours.
- Workers could no longer work at home.
- Workers were no longer craftsmen or craftswomen, they became factory laborers trained in a specific task, which often involved the operation of a machine and required little creative skill.

So, if little creative skill is needed, what is the next step?
Child labor! Children were small, so they could easily fit between the machines. They could also change parts without the machines having to be stopped.
Replacing bobbins on machinery

*Kids At Work, Russell Freedman, Scholastic, 1994. Photo by Lewis Hine*
Notes:

Rise of the Factory:
- New machines were often too big and expensive for homes, were put in factories.
- Factories were located near a power source: water, iron, coal.

Effects of Textile Factories in Britain:
- Prices of mass-produced textiles were much lower than hand-produced items.
- Britain’s textile industry increased enormously.
- The majority of villagers were forced to leave their homes to find work in urban factories.
Questions:

1: Which do you think is better, a day at school or a day working in a factory? Why?

2: Read "Testimony on Child Labor in Britain" and "Life in a New England Factory" (2 primary source documents). Do these documents support your opinion, or change it? Give specific examples from the text to support your answer.

3: What can we learn about the modern work week and world from these documents?