**NB # \_\_\_\_\_**

**The Industrial Revolution**

**Industrialization**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** - the process by which a society becomes technologically advanced, especially in terms of the means of production.
	+ Industrialization is usually accompanied by social and economic changes.
* **Industrial Revolution** - a long slow process that occurred in Europe (1780s and 1880s) and in the United States (1880-1910) that involved the shift from using \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the use of \_\_\_\_\_\_\_\_\_\_\_\_\_ in manufacturing.

**The Industrial Revolution Begins**

* The Industrial Revolution began in the 1750s; however, its causes can be traced back to the 1600s and an agricultural revolution that took place in Western Europe. **The agricultural revolution set off a spiral of events that led to the Industrial Revolution.**
* #1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:
	+ Dutch built dams to protect their farmland from flooding. They also used fertilizer to improve their soil.
	+ The British discovered new ways to produce more food, including the seed drill (a machine that plants seeds in rows) and new ways to breed stronger animals.
	+ Result: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* #2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:
	+ Since women ate better, they had healthier and stronger babies.
	+ At the same time, medical care improved and people lived longer lives.
	+ Result: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* #3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:
	+ To make goods faster for the growing population, people began using giant water wheels to power new machines.
	+ They also used coal to power steam machines.
	+ Result: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

**Industrial Revolution Begins in Great Britain**

* The Industrial Revolution began in Great Britain for 4 primary reasons:
	+ Britain had plenty of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Britain had \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the new mines and factories.
	+ Britain’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ made the economy strong.
	+ British middle class had money to invest as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in mines, railroads, and factories.

**Early Industrial Revolution (1780-1880)**

* During the early Industrial Revolution, **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** were very important as they produced the energy needed to run machines.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was the first to use the inventions of the Industrial Revolution.
	+ In the 1600s, women spun raw cotton into thread and then wove the thread into cloth at home.
		- **Cottage Industry** = work completed at home.
		- **Spinsters** = ladies who spun cotton.
	+ By the 1700s, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ allowed people to **make cloth much faster.**
		- Spinning Jenny
		- Flying Shuttle

**First Factories**

* The new machines were too large and expensive to be used at home. Instead, spinners and weavers worked in long sheds that became the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**Transportation Revolution**

* As production increased, people needed a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ means of transportation to move goods from place to place.
	+ People built private roads called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**and charged people who used them.
	+ People also built **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and **stronger bridges**.
* The most important invention was the steam locomotive by **James Watt**, which made the growth of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** possible.
	+ First railroad (1830) ran between Liverpool and Manchester, England.

**The Industrial Revolution Spreads…**

* European countries soon caught on to the Industrial Revolution and learned from British experts how to industrialize.
* Belgium, Germany, France and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soon caught up with Great Britain.
	+ They had more supplies of coal and iron than Britain had.
* However, not all Europeans will industrialize.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_will not industrialize for another 100 years!

**Late Industrial Revolution (1880 – 1910)**

* During the late Industrial Revolution, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ became the major sources of fuel to run machines.
* **Henry Bessemer** created the **Bessemer Process** to purify iron ore and make **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
	+ Steel was lighter and more durable than Iron.
	+ This led to the development of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!!

**Electricity Develops**

* During the late Industrial Revolution, **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** developed to light homes, factories, and offices.
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** will create the first electric **light bulb.**
	+ **Thomas Faraday** created the first simple **electric motor.**
* Result: People could work \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_…

**Communication Revolution**

* With the development of electricity came the development of new forms of rapid communication.
	+ **Samuel Morse** invents the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and Morse Code.
	+ **Alexander Graham Bell** invents the **1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
	+ **Guglielmo Marconi** invents the **1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**Planes and Automobiles!**

* During the late industrial Revolution the **internal combustion engine** was invented and used to create \_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Germany leads the way…
	+ **Nickolaus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** invented the gas powered internal combustion engine, which lead to the creation of automobiles.
	+ **Karl Benz** received the first patent for a three wheel auto.
	+ **Gottlieb Daimler** built a four wheel auto.
* And the U.S. joins…
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = 1st U.S. car – the Model T
	+ Wright Brothers = design and fly the 1st flimsy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at Kitty Hawk

**New Ways of Thinking**

* However, with the changes brought about during the Industrial Revolution came new ways of thinking.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – tried to understand the staggering changes taking place during the industrial revolution. Predicted that the increase in population would result in homelessness, poverty, and misery.
* Capitalism, Socialism, Communism
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Adam Smith) – advocated a free market economy and laissez-faire “hands off” policies and individual rights.
	+ Socialism – Condemned the evil of capitalism and stated that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ should own the means of production (not individuals).
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – a more radical form of socialism. All production is owned by the community.