Essential Question

What new technologies contributed to the Industrial Revolution?

The Industrial Revolution began as farmers began moving to the cities for work. **Great Britain** had all the factors of production needed for Industry:

-Resources (Coal and Iron)

-Rivers and Harbors

-**Rising Population**

The Industrial Revolution would spread to the United States, Germany and Japan.

The first industry to experience machines was the **textile** machines. New textile machines for **spinning** and **weaving**, which used to be done by hand.

The first machines in the Textile Industry….

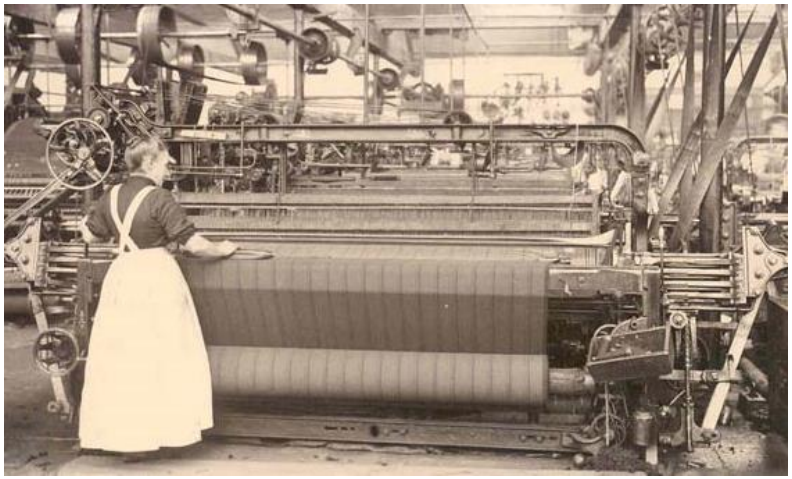
FLYING SHUTTLE

The flying shuttle doubled the amount of weaving a worker could do in a day. At first this was operated by hand then powered by water.

Spinning Mule and the Cotton Gin

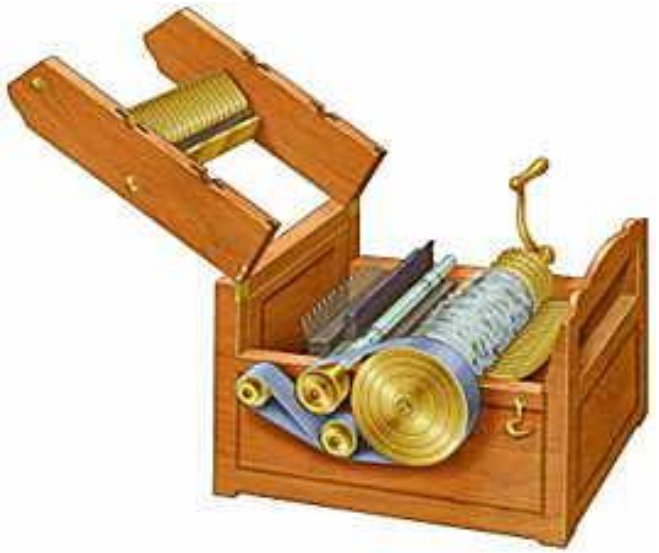
SPINNING MULE

- The Spinning Mule was created next – This water-powered loom increased the amount of weaving yet again.



Cotton Gin

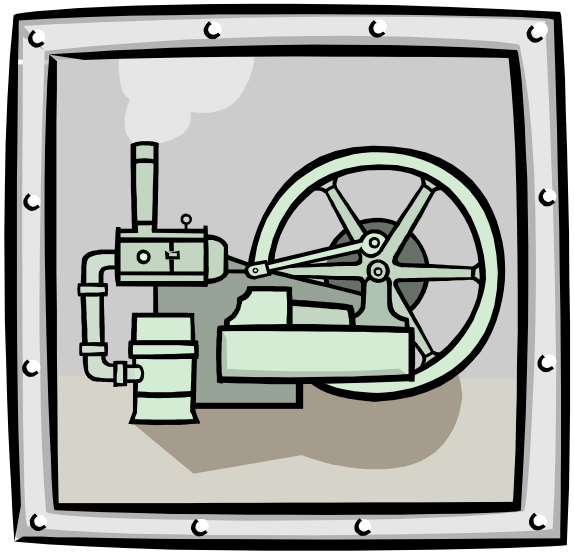
- The cotton gin significantly increased cotton production following its invention in 1793.



Water Powered Machines

- As reliance on large expensive machines increased, factories replaced the “cottage industries” (handmade clothing)
- Waterpower was needed to drive machines, factories were built near rivers or streams.

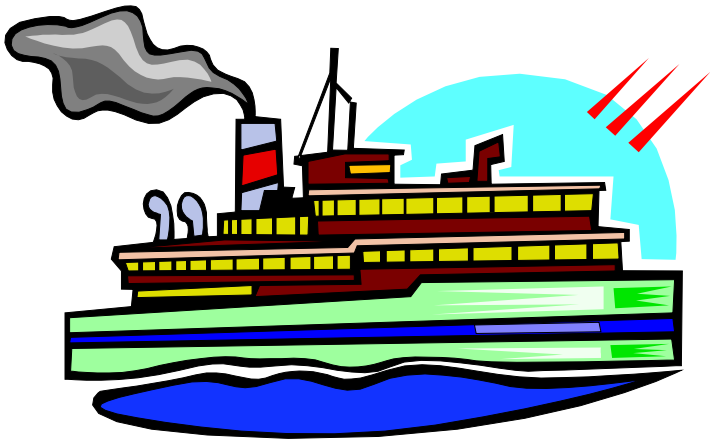
THE STEAM ENGINE IS INVENTED!! NO NEED TO BUILD NEAR WATER ANYMORE!



Steam engines relied on coal for power, not water! The need for coal Increased mining jobs!

How did transportation change?

Industry still needed ways to transport raw materials to factories and goods to markets…



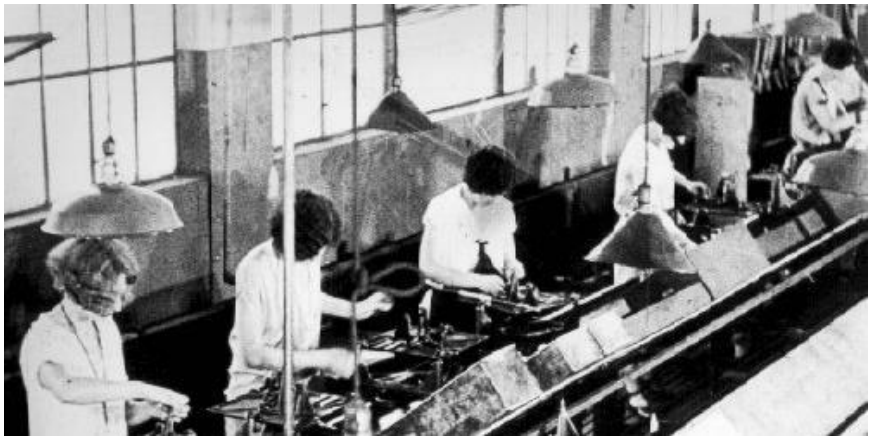
STEAMBOATS

RAILROADS

These were simple combinations of combining steam power with new methods of iron and steel production

What was mass production?

While machines were increasing the output of goods…



Two concepts would lead to the **MASS PRODUCTION** of goods

→ *Making large amounts of the same product*

↓

Results in cheaper prices

How did the creation of parts change?

INTERCHANGEABLE PARTS

Using machines to create parts that are *exactly* alike

Parts made by hand are never the same --- each part differs in some small way

The idea of interchangeable parts makes it easier to:

➲ Fit parts together

➲ Fix parts when they break

How was labor made easier?

DIVISON OF LABOR

Instead of having each worker creating a product after product from start to finish…

Workers began to **SPECIALIZE** → *doing one specific task*