The History of

Victorian Innovations

Equivalent Fractions



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Wonders of the Victorian Age

Long ago, a girl was crowned queen of Great Britain. She was just 18 years old. Her name was Victoria. Little did she know an entire **era** would be named after her. Victoria reigned from 1837 to 1901. She held the throne for 60 years. This was longer than any British **monarch**.

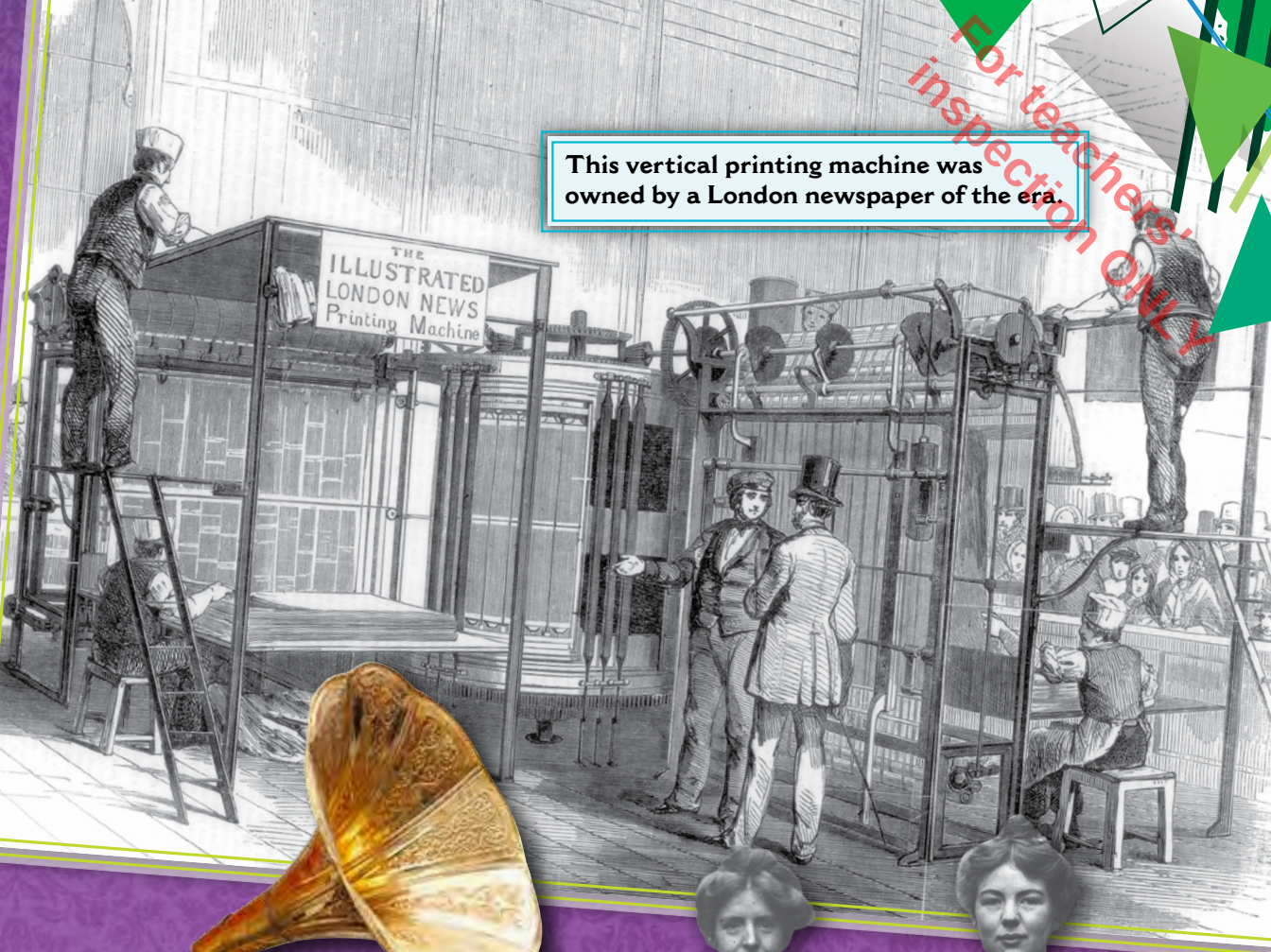
It was an age of change. There were new ways of thinking. Women fought for the right to vote. Laws were passed to protect children. There were also new **innovations**. Electricity was brought into homes for the first time. New machines that used steam were used in factories and railways. This changed the way people worked and traveled. There were even new ways to pass the time. The first international soccer, or football, game was played. A public park opened for everyone to enjoy. Anything seemed possible.



Queen Victoria

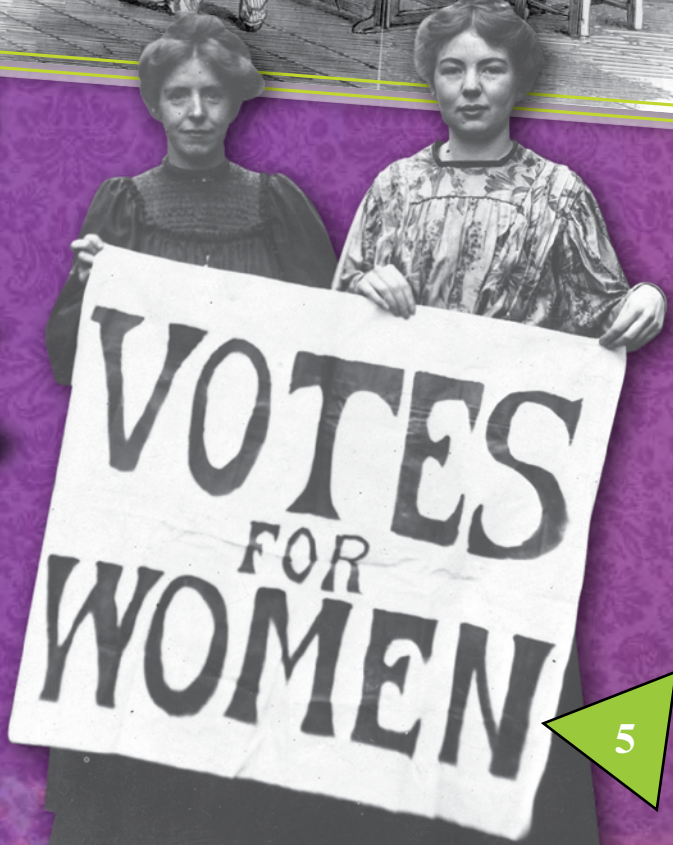
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This vertical printing machine was owned by a London newspaper of the era.





Ten years in the making, the gramophone was finally invented in 1887 to play recorded music.





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The Great Exhibition

The British wanted to celebrate the new changes that were taking place. So, a large fair was held in 1851. It was called the Great **Exhibition** of the Works of Industry of All Nations.

It was a grand fair. There were many curious objects. Several of them were new inventions. There were rubber tires and steam engines. There were false teeth and artificial legs. Today, these items are not unusual. We are used to them. However, they impressed people back then. For them, the inventions were brand-new.

The fair was planned by Prince Albert. He was the queen's husband. Albert was a musician who loved the arts. He wanted the fair to be a collection of wonders. It was just that.

The fair had many **parts**. There were 100,000 **exhibits**. But together, these parts made up one **whole**. And, as a whole, the fair stood for progress. It celebrated the modern world.



Queen Victoria and Prince Albert examine a printing press with other visitors.

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New Inventions

The fair had several parts. One showed fine art. Another had machines. This was one of Queen Victoria's favorite parts of the fair. She visited the machines more than any other place.

Many of our machines today are small. Computers fit on our laps. Phones fit in our palms. Some devices fit inside our ears. But long ago, machines were big. One machine could take up a whole room.

One of the fair's exhibits included a huge printing press. It towered over guests! People were impressed by how fast it printed. It could print 5,000 copies an hour. Another room had nothing but cotton machines. There were 15 of them in one room. They showed visitors cotton spinning from start to finish. Visitors had to stand behind an iron railing. From there, they watched the cotton machines whir and work.

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LET'S EXPLORE MATH

The moving parts of many machines at the fair relied on wheels. Spokes divide the wheel below into two parts.



By adding more spokes, this wheel now has four parts.



1. How has the wheel changed? How has it stayed the same?
2. Does the size of the wheel change if more spokes are added? Explain why or why not.

machines at the Great Exhibition