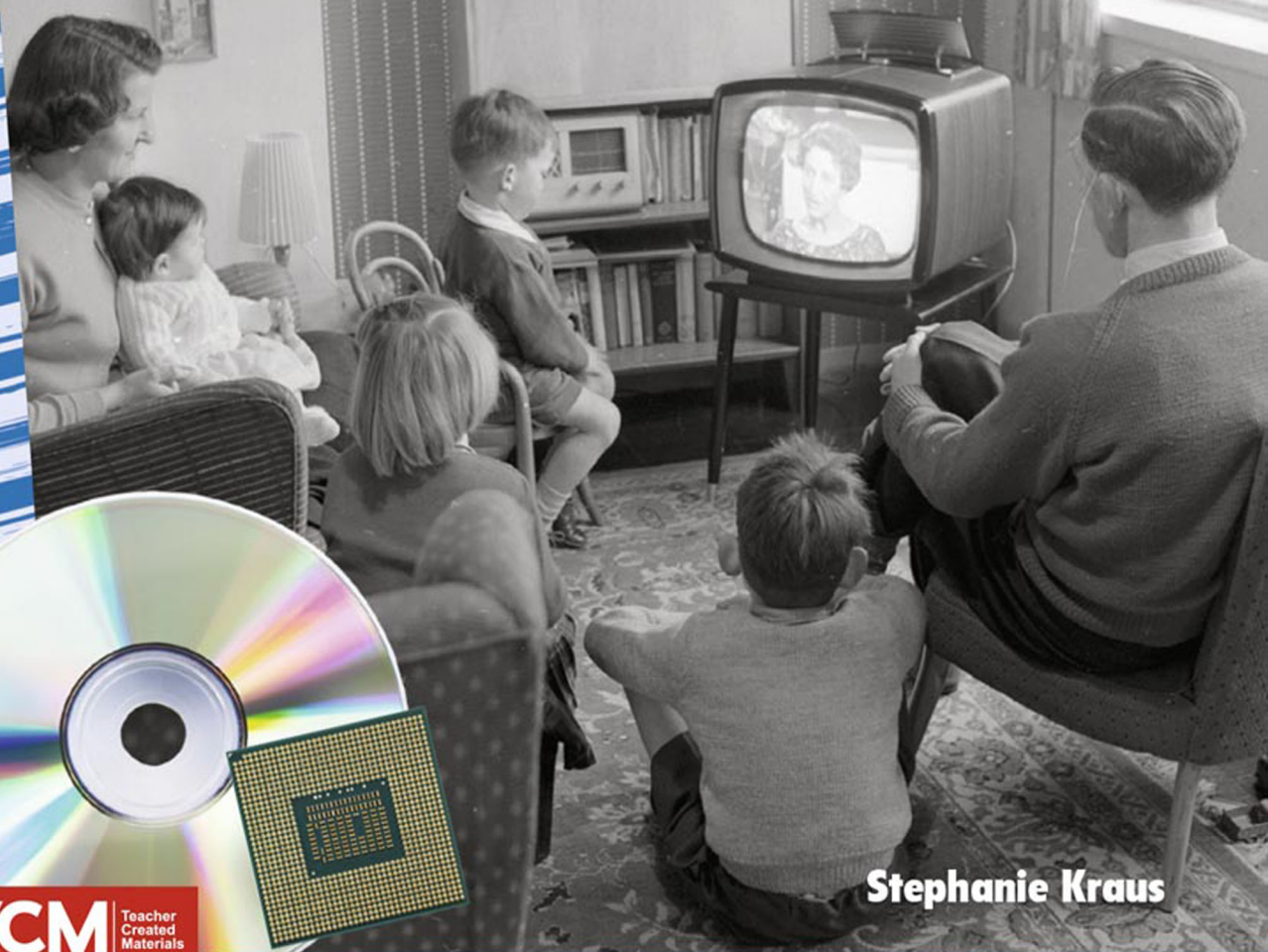


THE INFORMATION REVOLUTION



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Information at Our Fingertips

When was the last time you *googled* something? Did you know that term didn't mean anything 20 years ago? Today, it's pretty common. It means we are able to look up the answer to any question we have. All we have to do is go online. It wasn't always this easy.

The first fully functional digital computer was invented in 1946. Yet, home computers did not show up for another 30 years. Soon after, the internet took the world by storm. People could have information at their fingertips. Then, emails started being sent around the world. Instead of sending a letter that would arrive in days or weeks, people could write emails that arrived in seconds. People could buy and sell goods easier and faster than ever before. These things helped the world economy grow. New technologies were created each year. Companies raced to come up with new ideas first. The competition meant that companies had to make things better, faster, and cheaper than everyone else.

Suddenly, people were getting information like never before. People came up with a name for this era—the Information Revolution.



People can have digital doctors' appointments.



▲ America Online® homepage in 1996

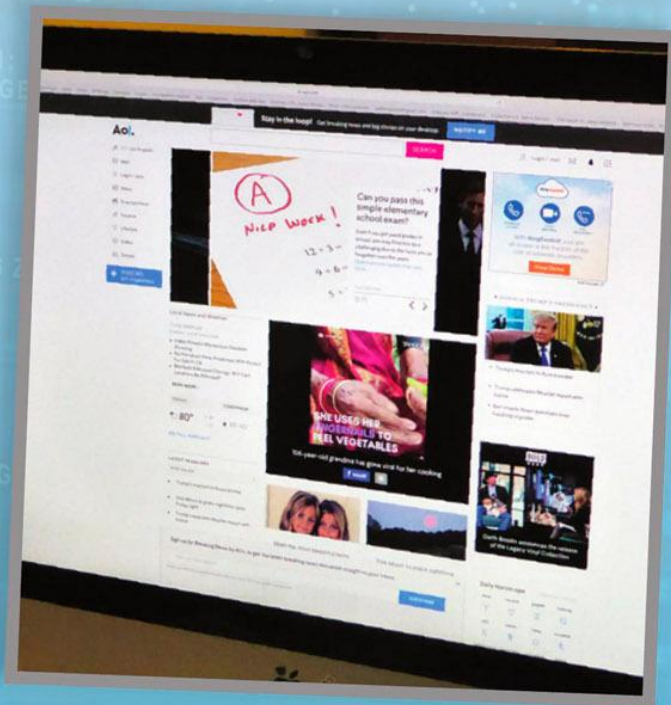
Google It!

Two Stanford University students created Google™ in 1998. The name Google is a play on the word *googol*. *Googol* is a mathematical term that represents the numeral 1 followed by 100 zeros. The students chose this name to show how much information the internet could hold.



Faster Connections

Access to the internet has greatly sped up since its introduction. If someone wanted to download a 2-hour movie today, it could take up to 30 minutes. In the early days of the internet, it could take about 213 hours (almost 9 days)!



▲ America Online® homepage in 2019

New Technology

Television Tubes

Televisions called CRTs also use vacuum tubes. In the 1960s, 9 out of 10 American households owned a CRT television set. However, LCD televisions started to slowly take over the market in the early 2000s. In 2007, LCD televisions outsold CRT televisions for the first time. Now, the old “tube TVs” can be hard to find.

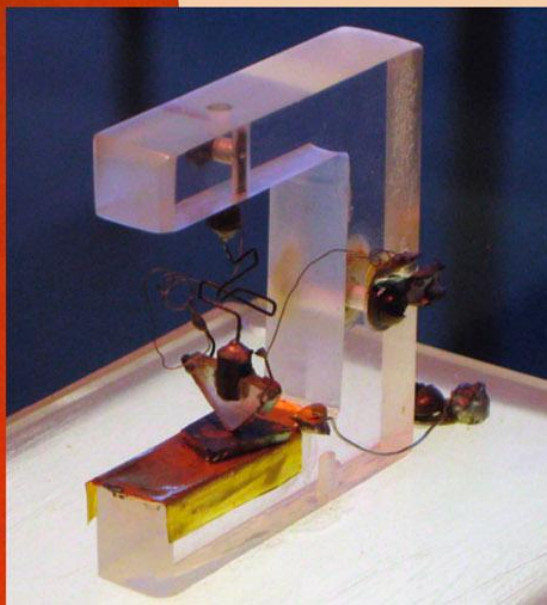
Hard Day's Work

To make the ENIAC work, people had to manually plug and unplug wires by hand. It took several days to reset the machine for a new program.

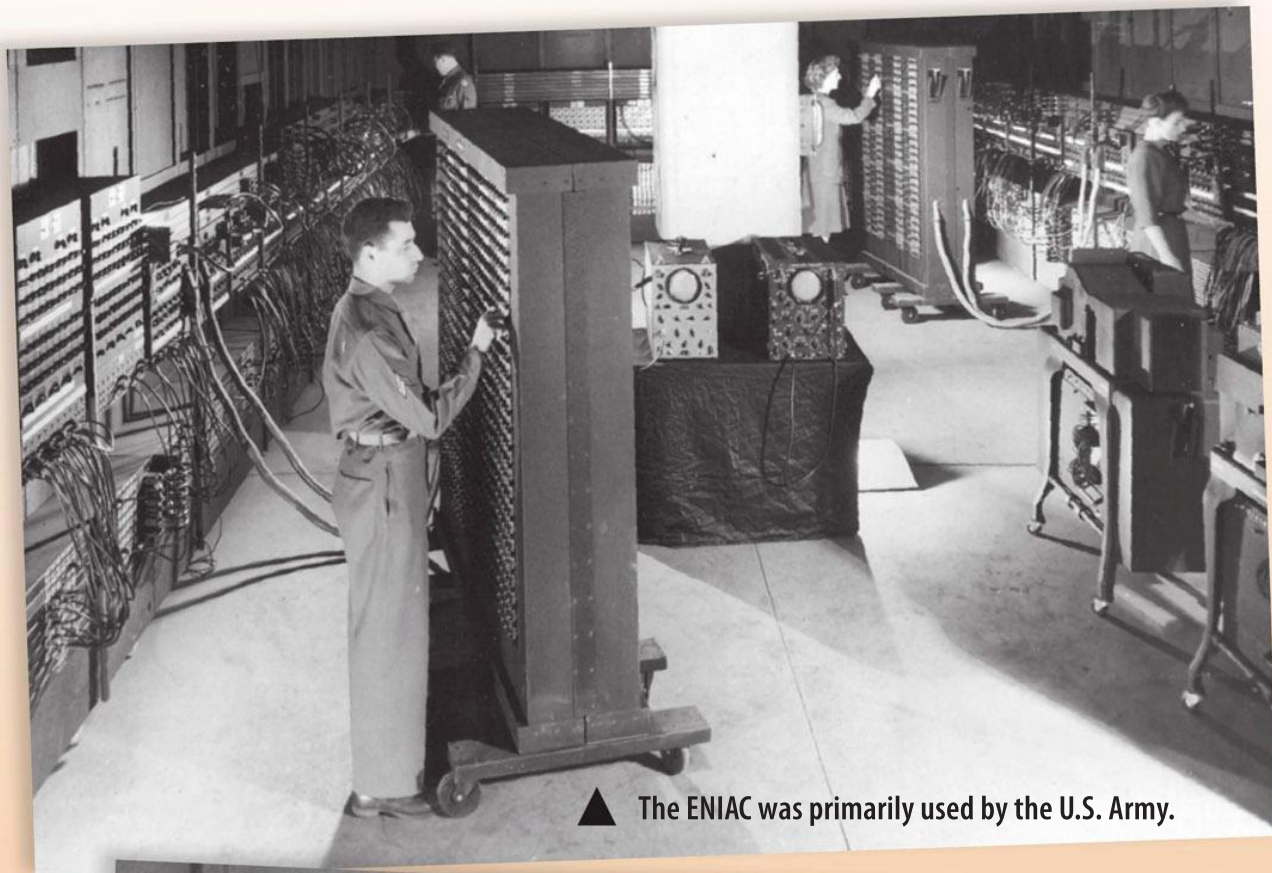
One of the first digital computers was built in Pennsylvania in 1946. It was called the ENIAC. It was a huge machine that could fill a room. The ENIAC had 40 panels. Each panel was about 2 feet (0.5 meters) wide, 2 feet (0.5 meters) deep, and 8 feet (2.5 meters) tall! It cost \$400,000. The ENIAC used 18,000 glass vacuum tubes to control its **electrical current**. To extend the life of the tubes, the machine was rarely turned off. Those long hours of operation meant the tubes used a lot of power and gave off a lot of heat.

The ENIAC was a marvel for its time. But, all those big vacuum tubes made the machine massive. People wanted smaller computers. So in 1947, three scientists at Bell Labs performed an experiment. They built a small device using gold and a crystal. Then, they added electricity to the device. The scientists could use the device to increase or switch electrical signals. These scientists had created the first

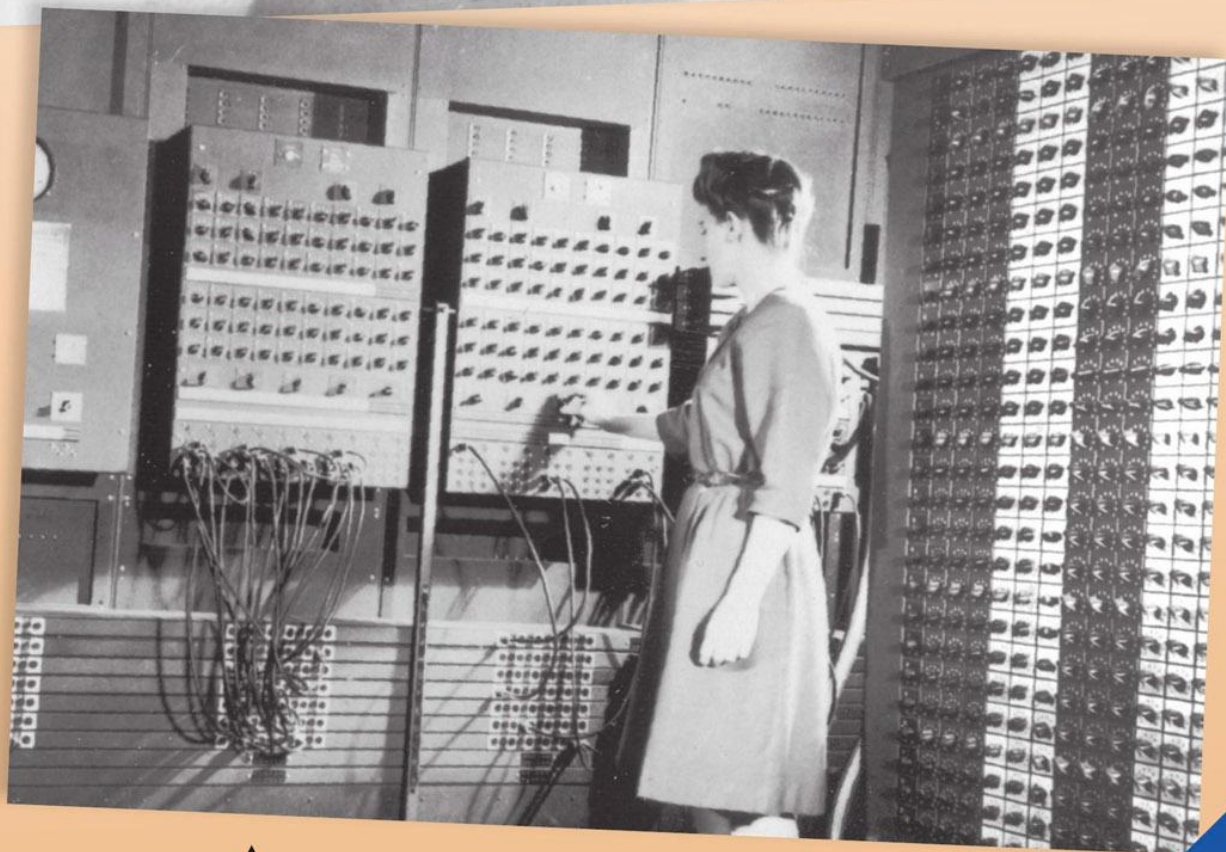
transistor. It was smaller and used much less power than vacuum tubes did. It was first used for calculators. But it was soon being used in almost all electronics.



◀ 1947 Bell Labs transistor



▲ The ENIAC was primarily used by the U.S. Army.



▲ A worker plugs wires into the ENIAC computer.

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