

Stories of Words: Computers



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Cheeeeeese!

Learning About Words

Computers are everywhere! Look around you. You probably have computers in your classroom or home. Cars, coffeemakers, and refrigerators can have computer parts, too. Televisions, watches, and phones often use computers. Chances are computers are wherever you are. But it wasn't until the late 1980s that computers became fairly common in homes, schools, and offices.

Just like with other inventions, new words were needed to describe computers and how they are used. The word *byte*, for example, might sound like an old word, as in “take a bite of cake.” But a computer byte is, in fact, a unit of measurement.



Other words used in the computer industry were existing words that were given new meanings. The word *mouse* is an example of a borrowed word, as is the word *firewall*. Originally, *firewall* meant a thick wall in a building that was meant to stop a fire from spreading. In the computer industry, *firewall* is a program designed to keep a virus from spreading to the rest of the computer.

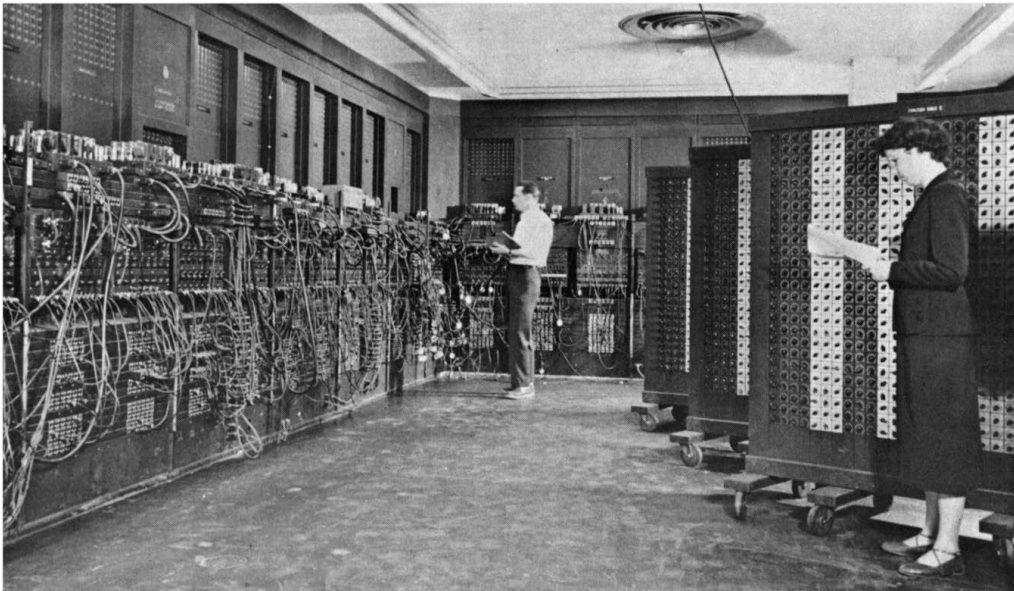
The computer industry has changed how people use language. Common phrases have been shortened to acronyms. Take “LOL.” People type this acronym to stand for the phrase “laugh out loud.” Computers also allow people to communicate with other people from far away places. They have introduced new ways to communicate like video chat. New technology means new words!



1

Computers Big and Little

In some ways, it feels like computers were recent inventions. But the first working computer was invented in the 1940s. It was so large that it took up a whole room! It was built to help scientists calculate complex math problems. In a way, it was like a giant calculator.



Gigantic computers still exist today. They are called “supercomputers.” What’s the difference from those first computers and today’s supercomputers? Supercomputers are much faster, and they can store more information.



Governments and large businesses use supercomputers to help run everyday activities. For example, the U.S. government uses a pair of supercomputers called “Luna and Surge.” They help the U.S. government track the weather. *Luna* comes from the Latin word for the moon. *Surge* means “to move quickly from one location to another,” as in a wave surging onto a beach.

Many smaller businesses use mainframe computers, which are smaller than supercomputers. A bank might use a mainframe computer to keep track of money as people buy things around the world. The name “mainframe computer” comes from early computers. Early computers were so large that the parts were built into shelves called “mainframes.”

Smaller than mainframe computers are “minicomputers.” Small businesses or departments within larger companies might use minicomputers to help with their

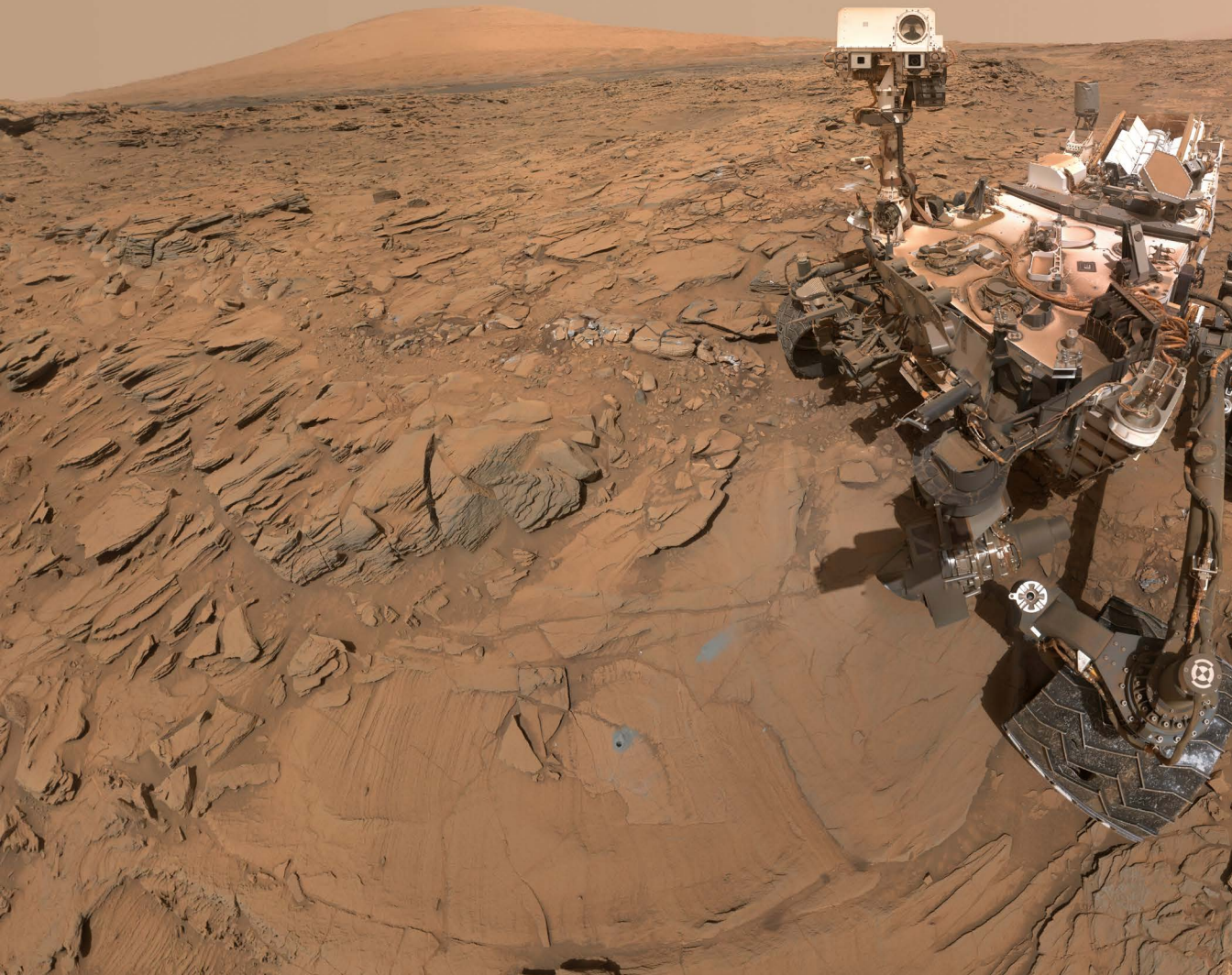


work. The *mini-* in *minicomputers* comes from the word *miniature*, which means “a smaller sized version of an object.” A minicomputer is a smaller version of a mainframe computer.

“Microcomputers” are much smaller than mainframe or mini-computers. Micro- comes from a Greek word meaning “small.” The laptop and desktop computers in homes and schools are examples of microcomputers. Another example of a microcomputer that many people use everyday is the smart phone.

New technologies mean that computers continue to get smaller. At the time this book was written, the smallest computer could fit on the side of a nickel. Tiny computers can serve new purposes. For example, tiny computers can be injected into parts of the human body that otherwise may be impossible to study. Of course, a tiny computer does not have a keyboard, mouse, or display. The tiny computer is charged and programmed by very strong light.

Have you ever imagined being on another planet like Mars? It's now possible with something as simple as putting on a pair of glasses and running a virtual reality program. A tiny computer in the glasses works with a virtual reality program to show a landscape that is completely designed by a computer. As a person walks around or moves their body, the virtual landscape moves as well. The technology for virtual reality has gotten so good that it is easy to pretend that you were on another planet. All of which would not be possible without microcomputers.



2

Hardware and Software

In computers, there is hardware and software. The word *hardware* can mean a few things. It can be a tool that is made of metal. It can also be a machine that can be connected to a computer.

A common kind of computer hardware is the keyboard. The word *keyboard* was originally used to describe a musical instrument, much like a piano. When typewriters were invented, the word *keyboard* was used to describe the buttons that people would press to type a letter.

Typewriters faded out of use as computers gained in popularity. The layout and function of the keyboard, however, stayed the same. The word *keyboard* was kept for the computer.

Sometimes a keyboard is called a “qwerty.” Why? Take a look at the top row of letters on a keyboard. Starting from the left, the letters that you will see are: Q-W-E-R-T-Y.



The computer mouse is another common kind of computer hardware. A scientist invented the computer mouse in the 1960s. He was looking for an easier way to give the computer instructions.

Before his invention, people had to type instructions into the computer to get it to run. If you wanted to start a program, for example, you would have to type a command telling the computer to open it. Typing the commands over and over again took a lot of time.

With the invention of the mouse, you could simply click on an image that stood for a command. For example, to save a file, you would click on the picture of a floppy disk.



floppy disk

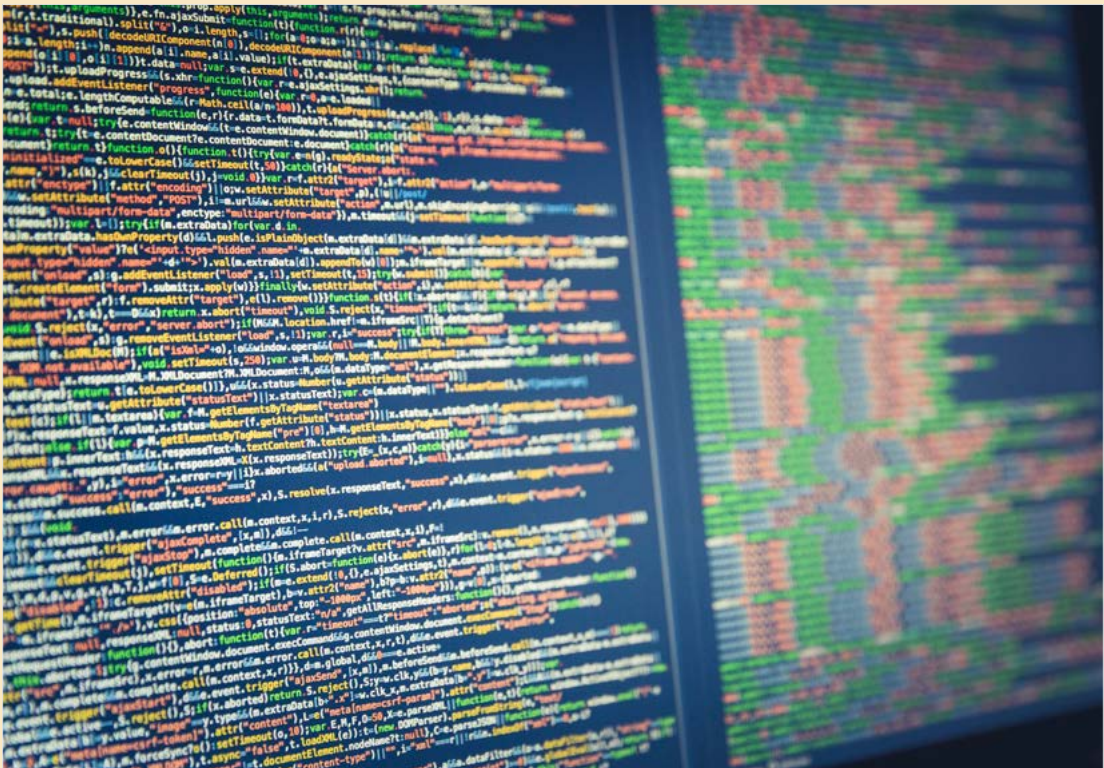
Some people think a computer mouse looks a little like a real mouse. The wire that attaches from the mouse to the computer is like a tail. Increasingly, a computer mouse no longer has a tail. Wireless technology means that the mouse can communicate without a wire connecting it to the computer. Even without its tail, however, the name mouse is still the term that is used for this piece of hardware.



A wireless computer mouse

Software is the opposite of hardware. It is not a physical object, so it can't be connected to a computer. "Software" is the name for the set of instructions that tells a computer what to do.

Each set of instructions is called a "computer program." The word *program* originally meant a public notice, like a billboard on the side of the street. Today, the word refers to a list of information, such as the fall TV lineup or the cast information in a play. And, in the world of computers, *program* means "a set of instructions that gets a computer to do certain tasks."



Even simple computer programs can have many lines of instruction.

3

Internet

Less than 30 years ago, you would have trouble finding the word *Internet* in books or magazines. You would not have heard the word in conversations. Since the mid-1990s, the word has soared into common use. Today, billions of people around the world use the Internet.

Today, billions of people around the world use “the Internet” as an information and communication tool.

The Internet is a network in which computers can talk to one another in a common language. The word *network* was originally used to refer to transportation systems like canals and railways. For example, the connections between railways often looked like a net when placed on a map.

When the first computer connections were developed, they were also given the name “network.” Early networks could not communicate with each other. Later, a method was developed to enable them to talk to each other. It was called “internetworking” or just “internet.” The prefix *inter-* means “among or between.” Soon, the entire network of connected computers was called “the Internet.”



How do you find things on the Internet? One way is to go to something called a “website.” A website is a set of pages of information about one topic, located in one place on the network. A group of scientists created the first website in 1990. They wanted a way to share information quickly with other scientists who were also connected to the Internet. They called their pages the “World Wide Web” or “W3.”

The scientists shared their technology with anyone who was interested. As a result, there are more than one billion web pages today. You could spend days and days looking at different web pages. People call this activity “surfing the net.” The word *net* is short for the word *Internet*. Surfing is a water sport where a person is carried by waves. If the waves are just right, then a person can surf for a while. On the net, interesting things can carry you for a long time as well.



The word *cyber* is another term that has become more popular since the rise of the Internet. In the past, the word *cyber* described the study of machines that could perform human tasks like playing chess. Today, we use the word *cyber* to help describe anything to do with the Internet. As more people use the Internet for work or for fun, more words with *cyber-* as a prefix are created. Here are some that you might know:

Word	Meaning
cyber bully	A person who targets others with hateful messages on the Internet
cyber space	The Internet
cyber security	The protection of personal information on the internet



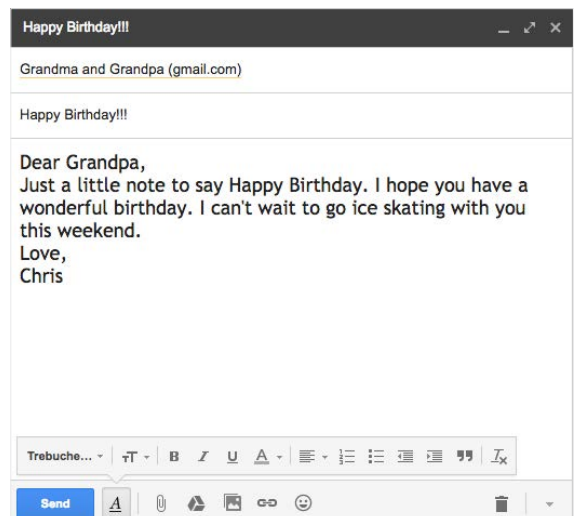
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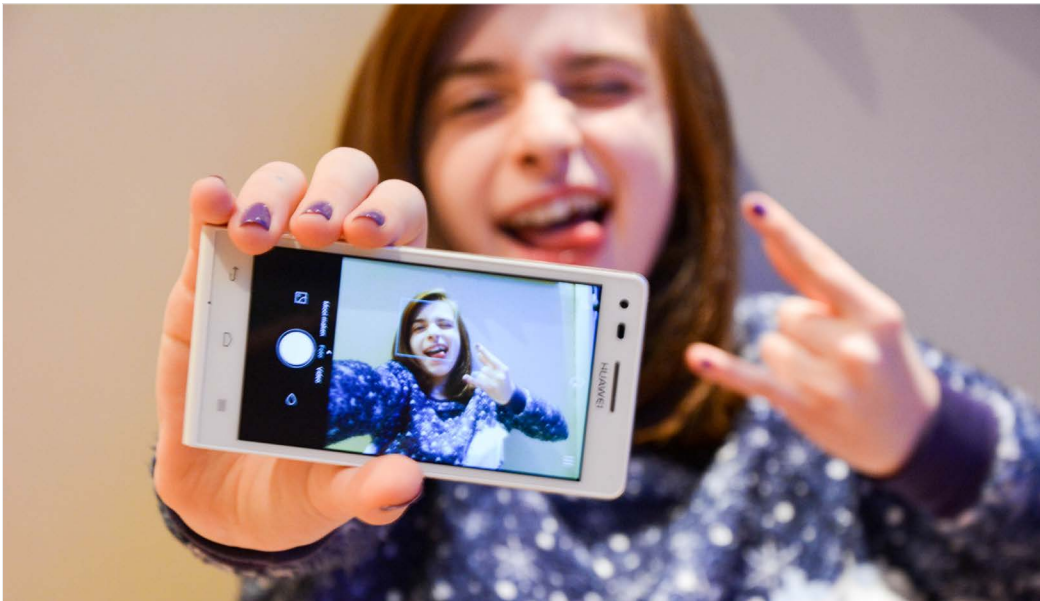
Computer Communication

The Internet was created to share information by allowing people to view it on a webpage. But what if you wanted to talk to the person who created the webpage? In the early days of the Internet, the only way to communicate was to write that person a letter or to call him or her on the phone.

Email made communication easier and faster. Short for electronic mail, “email” is the sending and receiving of messages over a network such as the Internet. Email was created before the Internet. In the early 1960s, computers used an early form of email to let users send messages to each other.

Instant messaging was created at about the same time as email. It was first used by groups of people in businesses or schools. In some ways, instant messaging is like talking on the phone. People send messages back and forth, just like when people talk back and forth on the phone. This similarity is why we use the word *chat* as another word for instant messaging.





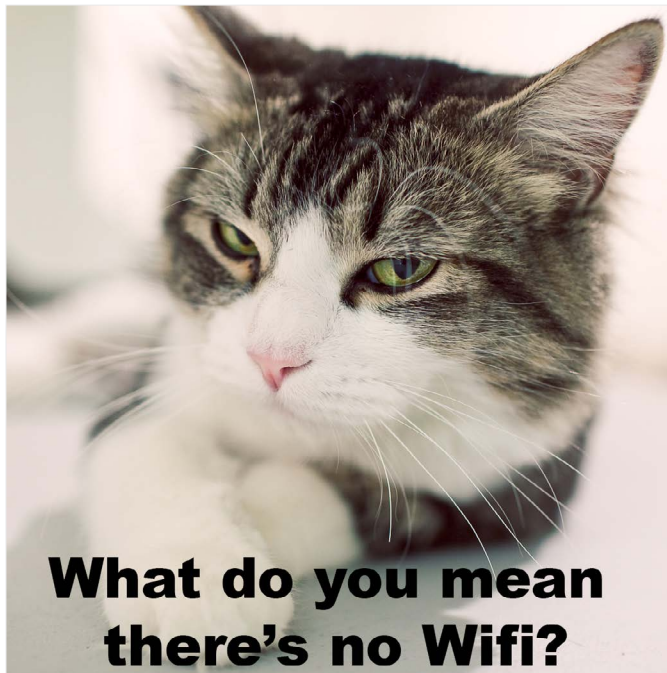
The latest communication tool is called “social media.” On social media, people share their social lives with other people. There are many kinds of social media. Some kinds are like instant messaging in that they allow people to communicate in real time. Real time means that someone gets the message almost at exactly the same time that it was sent. Other kinds are like web pages where people post information for others to read. Many kinds of social media allow people to share stories, pictures, and videos.

Sometimes, something on social media will spread from person to person very quickly. It might be a link to a news article or a funny photograph. When this happens, it is said that this thing has “gone viral” because the information has traveled much the way a real virus does.

A meme is a particular kind of picture that goes viral on the Internet. Memes are based on an idea that has been around since the 1960s. A scientist claimed cultural ideas are kept alive when they are passed from person to person, such as giving gifts on birthdays.

In social media, if enough people use an image in the same way, then it takes on meaning. For example, a picture of a cat sleeping in the sun can represent relaxation if enough people use the picture in that way.

With so many people using social media, it can be difficult to follow a specific conversation or image. The hashtag sign has become a symbol to help search and track a specific topic. People who want to see funny cat pictures can search for them by using #funnycat. The hashtag is also known as a number sign and a pound sign.

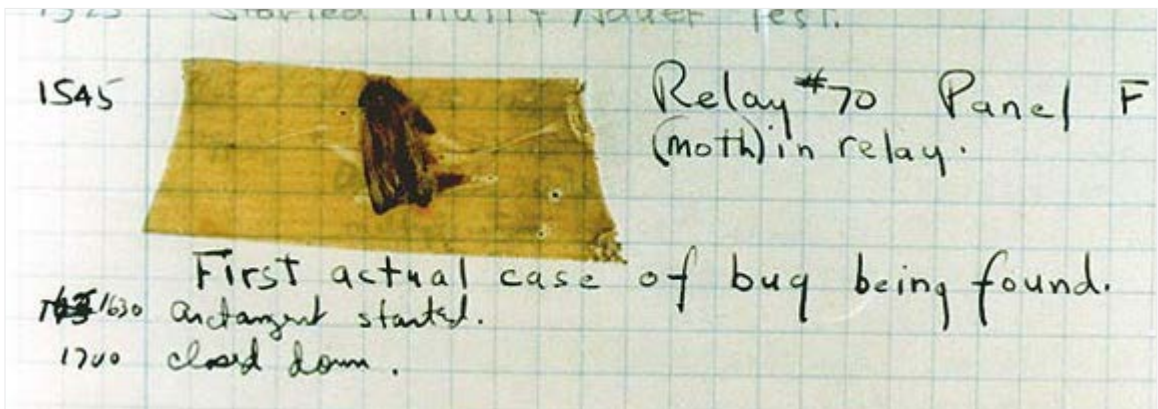


5

Computer Headaches

The Internet is filled with interesting places to visit and explore, but it also presents dangers. Often people open their email “mailboxes” to find them filled with unwanted messages. These unwanted messages are known as “spam.” The word *spam* was borrowed from a British television comedy skit from the 1970s. In this skit, restaurant customers complain about spam, a kind of unpopular lunchmeat.

Computer programs can behave unexpectedly. This is often the result of a computer “bug,” or a mistake within the program. Scientists and engineers have used the word *bug* in this way for quite a while. In 1878, Thomas Edison used the word “bugs” to describe little problems in his inventions such as the light bulb. A story that computer scientists tell is that a problem or bug in one of the earliest computers turned out to be a real bug. A moth had gotten trapped inside the computer!



While spam and bugs can be annoying, computer “worms” and “viruses” can be dangerous. A computer virus acts much like a real virus. A file on one computer gets “infected” and sent to another computer, which spreads the infection. Computer viruses have been known to delete files, send unwanted messages, and spy on users.

“Worms” are programs that do not need to infect a computer file to spread. They have been programmed to contact other computers and infect them. Worms allow attackers to take control of other people’s computers.



Worms and viruses are programs that work to harm your computer.

Another method by which computers are attacked is called a “Trojan Horse.” This term is borrowed from an Ancient Greek myth. In the myth, the Greeks gave a large wooden horse to the people of Troy. But hidden inside the horse, were warriors who jumped out and attacked the Trojans. A computer Trojan Horse is a program that seems harmless, but, once opened, attacks another person’s computer.

Often the people who specialize in these sorts of attacks are called “hackers.” Originally, a “hack” was someone hired to do routine work. It is short for the word *hackney*, which means “ordinary horse.” In the early days of computers, *hacking* referred to working hard to learn how computers worked. Today, *hacker* has become a negative word. A *hacker* is someone who illegally enters a computer system.



The Trojan horse in the Ancient Greek myth seemed harmless until warriors climbed out and attacked.

Our Changing Language

Like other industries, words from the computer industry come from many places. Some are old words with new meanings, while others are entirely new words. Computers are different than other inventions, however, in the speed in which things change. Rapid changes in computers also mean that the words around computers can change quickly. Words that were once popular can be swiftly and completely forgotten. The term “floppy disk” is one example. Floppy disks got their name because they were made of a bendable plastic that flopped back and forth. Floppy disk was used frequently in the first decades of personal computers because it was the only way to move files from one computer to another. But, by 2006, most personal computers had hard drives that could store large amounts of information. Flash drives were also available and, suddenly, no one used floppy disks. The term has faded into history.



A 5.25 inch floppy disk.

Glossary

mouse in computers: computer hardware

program in computers: a set of computer instructions

surf in computers: to search on the Internet

chat in computers: instant messaging

viral in computers: to spread quickly through technology

meme in computers: an image with cultural meaning

bug in computers: a type of computer problem

virus in computers: an infected computer program

worm in computers: a type of computer problem

Think About It

- What kinds of computers do you use? Tell a friend about how you use them. Use two or three words from this book to help you explain how computers affect your life.
- Have an online chat or email exchange with a friend. Note any words you use that have multiple meanings.
- What do you think the next big step in computers will be? Draw your creation on poster paper. Give it a name by using a word or a part of a word from this book.

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