

# Communication Technology

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**Seed  
Learning**

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## Communication



Families communicate in different ways.

Communication was one of the first things we developed in the early days of our world. This was necessary to enable us to understand each other, to cooperate, and to build societies.

Communication today takes

many forms. We use human-to-human communication, human-to-device communication, and device-to-device communication.

The communicator develops a message, composes it, encodes it, and transfers it to others. The receiver reconstructs the message and interprets it in order to understand. But just how has communication developed over the centuries?

Communication

## Speech and Writing



Good fortune Prosperity  
Longevity Auspiciousness

Chinese characters

Our first attempts at communication were with drums, smoke signals, and body language. Later, people invented speech and language.



A cave drawing that communicates a message

People soon realized the need to record information for future generations through story telling. As time went on, people at first drew pictures on cave walls, and later they cut pictures into stone and on clay tablets.



Pictographs on stone

The Egyptians invented paper made of papyrus for writing pictograms—pictures made to represent objects and actions.

Over time, pictograms evolved into ideograms, which were symbols that represented an idea. For example, an ideogram of two sticks might mean legs, or it could mean walk. The Chinese and Egyptians evolved these into Chinese characters and hieroglyphics.



Papyrus with hieroglyphics

## The Evolution of Writing

The earliest writing systems were based on both pictograms and ideographs. Later, alphabets were formed. At first, everything was hand-written. Making a book could take months or years.



A replica of Gutenberg's printing press

In about 1450, the first printing press was made by Johannes Gutenberg in Europe. It could print books quickly. This gave everyone access to books and newspapers.

The inventions of pencils in the 16th century and the typewriter in the 19th century both made writing faster and easier. And in the 1980s, the personal computer changed everything. It allowed us to edit or save documents for the future without re-typing.



An antique typewriter

The use of the alphabet



## Communicating with Electricity

The discovery of how to use electricity enabled many new media technologies. Among the first was the telegraph, invented in 1837. The telegraph could send signals along wires across the country at the speed of electricity, but it needed skilled operators.



A Morse code telegraph device

The telegraph worked by connecting two machines with a long wire. A signal using Morse code would be sent from one machine to the other. Operators needed to code and decode the message.



An early telephone

Then came the telephone. It allowed us to communicate by voice in real time over long distances.

The phonograph, invented in 1877, could record voices and music. For the first time, audio could be recorded for future generations.



An early sound recording phonograph

## Radio and TV

All the previous machines were private—from one person to one other or a few others. This changed with the radio. The first radio signal was sent in 1895. Radio signals allowed messages to be heard by anyone at a distance. No wires were needed!



 An early radio

Television, invented in the 1920s, completely changed modern life. By the late 1990s, 98% of American homes had a television. Instead of reading books or pursuing hobbies in the evenings, people watched TV.



A family watching TV, 1955

## Personal Recorders and Players

In the 1960s, people could buy hand-held machines to record music or their own voice. They could make messages and share them with anyone.



A cassette player and a cassette tape

People had records, then cassettes, CDs, and MP3s. Personal music players allowed us carry our audio with us and listen to anything we wanted at any time.



 A video cassette tape, CD, DVD, and other recording technologies

Video recorders were also developed. They allowed us to record shows from television or to make our own movies using video cameras.



Three people listening to the radio



A video camera

## Comprehension Questions

- Communication happens...
  - human to human.
  - human to machine.
  - machine to machine.
  - All of the above
- Our first attempts at communication involved...
  - speech.
  - body language.
  - printing.
  - writing.
- Which came first?
  - Printing
  - Telegraphs
  - Pencils
  - Phonographs
- Which technology was said to completely change modern life?
  - Radio
  - Television
  - Cassettes
  - Video recorders
- Internet 2.0 added the ability to...
  - comment on webpages.
  - watch videos.
  - view newspapers online.
  - access dictionaries.
- Augmented reality is...
  - a new world created by software and viewed on screens.
  - a technology that displays additional information on a real world image.
  - a new form of a smartphone.
  - All of the above
- Perceptual computing technology allows us to control machines using...
  - gestures.
  - face recognition.
  - speech recognition.
  - All of the above
- Wearable devices can...
  - communicate from brain to brain.
  - stop cyber criminals.
  - help some people see again.
  - All of the above
- The Internet-of-things will aid communication between...
  - humans.
  - devices.
  - webpages.
  - brains.
- Future communication technologies may lead to...
  - us questioning our role with machines.
  - worries about privacy.
  - more complicated lives.
  - All of the above

## Glossary

- **application** a computer program with a specific purpose such as maps or a game
- **audio** relating to the recording or playing of sound
- **augmented reality** technology allowing images or text to be displayed on a screen with the real world as a background
- **encode** to put into a set of letters, numbers, or signs
- **ideograph** a written sign or symbol that represents an idea or object
- **intuitive** readily learned or understood
- **passive** accepting or receiving, not giving or sending
- **phonograph** a very early technology that can play music and record voices
- **pictogram** a picture made to represent an object or action
- **sensor** a device for measuring something, such as temperature or speed
- **tremendously** very much; extremely
- **upload** to send data or files to the Internet
- **virtual reality** a world built and displayed in software but accessed using a screen or a headset