The earliest people counted the passing of time in simple ways. Each morning the sun appeared to rise above the horizon. Later each day the sun appeared to sink below the horizon opposite it. We believe that tally marks on sticks or collections of stones, one for each sunrise, were used to mark the passage of time. Each group of people created time telling systems that matched its needs and beliefs.

A sundial uses the sun and its shadow to measure time. Early observers saw that a stick put into the ground in a certain way would show the passing hours. Many early sundials were developed, large and small. The use of sundials spread first through Egypt, then to other parts of the world. These first sundials only measured large units of time.

In time, people discovered that the moon has a regular patterns of appearance and disappearance. Every month, our moon completes one orbit around the earth. The same side of the moon always faces Earth. As that side moves through space, there are times it receives the light from the sun and times it is dark. From our view, it seems that every twenty-nine and one-half days, the moon appears to go from complete fullness to invisibility and back to fullness, with many days of waxing and waning moons in between.

Later sundials were more complicated and more specific in the time they measured. The Babylonians adapted their system of 12 hour days to the face of their sundials. Other versions of this clock face were developed by the Greeks and Romans. Despite many changes in time keeping, this form of clock face continues in use today.

In China, many years ago, a kind of clock was made by floating a bowl in a bucket of water. A small hole allowed tiny drops of water into the bowl. Drop by drop, the bowl filled with water to show the passing of time.

Just as water could be used to collect slowly and record time, tiny grains of sand or other substances were used in early time counting devices. The hourglass took a number of forms and is still used today. The smallest hourglasses fit into your hand and really measure only a minute or two. Very large ones mark the passage of many hours.

Water clocks were used in many places. Some water clocks were complicated. Small containers of water were emptied into larger containers in ways that were interesting as well as practical. As different containers filled with water, wheels were turned by the motion of the water and the hands of the clock turned also.

In many cultures, a drum in the center of the town or village was used to sound the time. Important events or messages could also be given by means of similar drums. A loud drum could send a simple message many miles into the distance. Drums could signal rest periods, food, or emergencies, as well as the time of day.

Small cannons were used in many places to show special times or to signal the time of day. A loud cannon explosion could travel many miles to give warning or an alert. Cannons were also used as a way for ships to communicate at sea.

Modern time is mostly kept by digital clocks. Digital clocks have no hands. They show the time by means of numbers on the clock face. These clocks can keep a very precise record of minutes, seconds, and even parts of seconds. For many people, digital time is easier to read than analog time, because it is not necessary to decode the meanings of the hands.

For many years, the only form of writing or recording time used by machines was analog time, in which the wheels of a clockwork moved inside a clock or watch in a way that made other wheels move. In analog time, a short hand shows the hour and a longer hand points to the number of minutes that have passed. Many analog clocks include a thin, long, second hand that sweeps quickly around the clock face.

Many countries today keep their traditional ways of telling time and counting years. But for business and communication, all nations use the same calendar and system of recording months and days.

For over one hundred years, the world has used Greenwich Mean Time. The world is divided into twenty-four time zones. Each zone is one hour different from the next. West of Greenwich, England, it is earlier. East of Greenwich, it is later. Travelers who cross the International Date Line in the Pacific Ocean gain or lose a day.

The History of Time-Keeping

the sun

the moon

calendar

cannon

hourglass

drums

digital time

early sundial

Greenwich mean time

later sundial

analog time

water clock

bowl clock

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