

The Purpose of Historical Sundials

by [Anja Poulsen](#) April 22, 2012 **Last Updated:** July 03, 2012

<http://www.helium.com/items/2317798-sundials-through-history>

These days we make think of sundials merely as garden ornaments, but for centuries, they were the most accurate way for man to keep track of time and the seasons. The sundial is perhaps the most ancient of man's scientific instruments. Its invention allowed man to chronicle the passage of time as the sun moved across the expanse of the sky.

The first sundial would have been no more than a shadow stick or gnomon (from the Greek, meaning "one who knows") which would be set in the ground and the day measured by the shadows it cast. These shadow sticks may have been used as early as 5,000 BC. Around 2,500 BC, both the Egyptians and the Babylonians built obelisks, which are tall, four-sided stone pillars. The shadows helped divide the day between morning and afternoon, establishing mid-day. Some obelisks might have marks at the base to further divide the day into smaller units of time. Later, the Egyptians built

[T-shaped sundials with a base stick and a crossbar](#) that had to be turned in the afternoon, as the base had only five hours marked on it. This Time Stick was the first true sundial and came into use around the year 1,500 BC. Small, portable sundials have been found that date back to this time, and while they were a far cry from being as **convenient** as a wristwatch, this discovery shows that having the ability to tell time regardless of where you were, was becoming very important.

The first written evidence of the use of sundials is from about 750 - 700 BC and is found in the **Book** of Isaiah where the sun is said to have gone back ten degrees [on the sun dial of Ahaz](#). The first design of a concave, or bowl design sundial is credited to a Babylonian priest and historian, Berossus, around 300 BC. His sundial consisted of a half-sphere cut into a block that was marked in 12 equal divisions. A bead in the center of the dial would cast a shadow that moved through the divisions as the sun moved across the sky.

In 290 BC, the Romans obtained their first sundial by capturing it from the Samnites and installed it in Rome. Later, the Romans would work to perfect the sundial and make more portable versions. The Greeks also built sundials using their extensive understanding of geometry, and in time, introduced trigonometry, which allowed for more accurate division of hours using mathematical equations.

Over time, it was discovered that the shadow of a slanted object yielded a more accurate reading and the sundial underwent several refinements and re-inventions. Sundials continued to be the only method of keeping track of time in the civilized world.

Although we often take the science of time for granted, it hasn't been that long since man abandoned the sundial for other methods of time-keeping. The first [pendulum clock](#) was invented just 356 years ago. Clocks and watches did not become popular for telling time until the 1700s. Even then, they were somewhat unreliable and sundials were used to set the time on mechanical clocks. It wasn't until the mid-1800s that clocks had become accurate enough to start to replace sundials as the method of choice for tracking time.

The well-known scientist Bill Nye felt that man's relationship to the sundial was so important that he collaborated with colleagues at Cornell [University](#) to install two [sundials on the Mars Rover](#) to be used in calibrating the on-board panoramic camera.

Today, sundials can be created using calculations and precision machinery to make them as accurate as any household clock. Although the decorative sundials manufactured as garden ornaments do not tell time accurately, they remind us of man's first attempts to harness time and use it to regulate his life.