

GROUNDHOG DAY 2018 | SPECIAL

de Stolfe Journal Candid

Happy Groundhog Day!



Candid Comments



Happy Groundhog Day!

Anytime I can find an excuse to put out a special issue of the Journal, I try to do it! Since 2012, I've put out the following special issues:

- Christmas 2012
- Valentine's Day 2013
- April Fools 2013
- Christmas 2013
- April 2014, International Issue
- News Flash 2014 (*about Temple Israel job*)
- Happy New Year 2015
- April 2015, International Issue Deux
- Thanksgiving 2015
- Pi Day 2016
- St Patrick's Day 2016
- March 2016, 30th year anniversary issue
- Thanksgiving 2016
- Christmas 2016
- President's Day 2017
- Croissant Day 2018
- Groundhog Day 2018

I decided to put out this issue to start including more obscure holidays and celebrations. Expect to see more special issues of unusual days like this in the future!

Groundhog Day is not a particularly celebrated day except in certain areas of the United States and Canada, but it does represent the nearly exact middle between the first day of winter and the first day of spring. Whether or not Punxsutawney Phil sees his shadow, we still have six more weeks until spring!

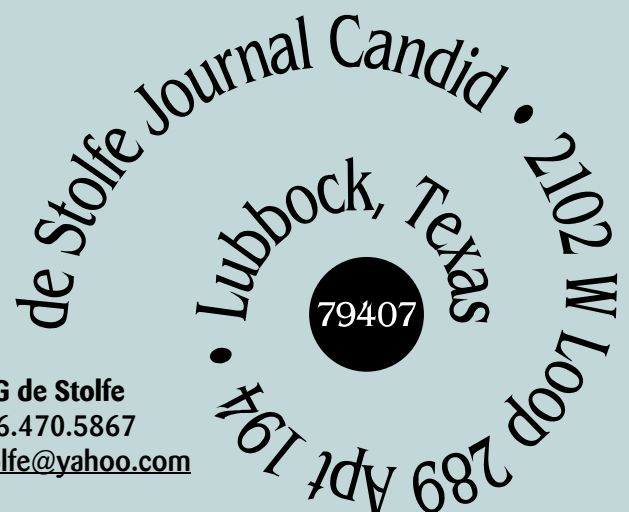


Punxsutawney Phil the groundhog

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What is Groundhog Day?

Simply put, Groundhog Day is an annual tradition celebrating the prediction of spring by using a groundhog.

The tradition is that if the groundhog sees his shadow, there will be six more weeks of winter.

Groundhog Day is on February 2 of every year. It comes from a Pennsylvania Dutch superstition that if a groundhog emerges from his burrow on this day and sees his shadow (because of clear weather), he will retreat back to his burrow because winter will continue for another six weeks. If he does not see his shadow (because of cloudy weather), supposedly spring will arrive early. This celebration is observed in Canada and the United States and possibly in Germany. The largest ceremony is in Punxsutawney, Pennsylvania with a groundhog named Phil. Canada has its own celebration with its own groundhog. The first mention of this event was on February 2, 1840 in a diary entry by James L. Morris of Morgantown, Pennsylvania in Pennsylvania Dutch country.

“The first reported news of a Groundhog Day observance was arguably made by the Punxsutawney Spirit newspaper of Punxsutawney, Pennsylvania in 1886: “up to the time of going to press, the beast has not seen its shadow”. However, it was not until the following year in 1887 that the first Groundhog Day considered “official” was commemorated here, with a group making a trip to the Gobbler’s Knob part of town to consult the groundhog. People have gathered annually at the spot for the event ever since.”

Read more at: https://en.wikipedia.org/wiki/Groundhog_Day

The Punxsutawney Spirit.

—To day is groundhog day, and up to the time of going to press the beast has not seen its shadow.

—To day is groundhog day, and up to the time of going to press the beast has not seen its shadow.

Header and news snippet from The Punxsutawney Spirit. newspaper, February 2, 1887. Page 5.

Editor’s Note: Groundhog Day is 43 days after the first day of winter, about 6 weeks. The first day of spring is 46 days after groundhog day, about 6.5 weeks. So, no matter whether or not the groundhog sees his shadow, there is still 6 weeks of winter anyway! Of course, that has nothing really to do with the pattern of cold and snow.

Groundhog Day

In 1993, a movie premiered with the title *Groundhog Day*.

According to the Internet Movie Database (IMDB),

“A weather man is reluctantly sent to cover a story about a weather forecasting “rat” (as he calls it). This is his fourth year on the story, and he makes no effort to hide his frustration. On awaking the ‘following’ day he discovers that it’s Groundhog Day again, and again, and again. First he uses this to his advantage, then comes the realization that he is doomed to spend the rest of eternity in the same place, seeing the same people, do the same thing EVERY day.”

The film stars Bill Murray, Andie MacDowell, and Chris Elliott.

Read more:

- <http://www.imdb.com/title/tt0107048/>
- [https://en.wikipedia.org/wiki/Groundhog_Day_\(film\)](https://en.wikipedia.org/wiki/Groundhog_Day_(film))

I’ve personally never seen the movie to provide any kind of commentary. I do recall, however, that my sociology professor loved referring to this movie that year in class lectures!



Promotional poster for the film *Groundhog Day* (1993) starring Bill Murray.

What is a Groundhog?

“The groundhog (*marmota monax*), also known as a woodchuck, is a rodent of the family Sciuridae, belonging to the group of large ground squirrels known as marmots. It was first scientifically described by Carl Linnaeus in 1758. The groundhog is also referred to as a chuck, wood-shock, groundpig, whistlepig, whistler, thickwood badger, Canada marmot, monax, moonack, weenusk, and red monk.”

“The groundhog is a lowland creature. It is widely distributed in North America and common in the northeastern and central United States and Canada. Groundhogs are found as far north as Alaska, with their habitat extending southeast to Georgia.”

“The groundhog is the largest sciurid in its geographical range, typically measuring 16” to 26” long (including a 6” tail) and weighing 4 to 9 pounds. In areas with fewer natural predators and large amounts of alfalfa, groundhogs can grow to 30” long and 31 pounds. Groundhogs are well adapted for digging, with short, powerful limbs and curved, thick claws. Unlike other sciurids, the groundhog’s spine is curved, and the tail is comparably shorter as well—only about one-fourth of the body length. Suited to their temperate habitat, groundhogs are covered with two coats of fur: a dense grey undercoat and a longer coat of banded guard hairs that gives the groundhog its distinctive “frosted” appearance.”

“The etymology of the name *woodchuck* is unrelated to wood or to chucking. It stems from an Algonquian (possibly Narragansett) name for the animal, wuchak.” (which roughly translates as “the digger”)

So that means that the popular tongue twister is actually wrong!

How much wood would a woodchuck chuck
if a woodchuck could chuck wood?
A woodchuck would chuck all the wood he could
if a woodchuck could chuck wood.



The red area shows the general habitation of the groundhog in North America, mostly in the northeast and Midwest of the United States and eastern and southern central Canada with narrow strips into Alaska and the panhandle of Idaho.

Read more:

- <https://en.wikipedia.org/wiki/Groundhog>
- http://animaldiversity.org/site/accounts/information/Marmota_monax.html



Groundhog (*marmota monax*)

What Are Seasons?

sea·son
/sēzən/

noun
plural noun: seasons

1. each of the four divisions of the year (spring, summer, fall, and winter) marked by particular weather patterns and daylight hours, resulting from the earth's changing position with regard to the sun.

Spring



Summer



Fall



Winter

The earth is tilted upon its vertical axis. It is because of this tilt as the earth orbits around the sun why seasons exist. These seasons exist from the varying angle of the sun's rays hitting the earth, from most direct angle to least direct angle. The more direct the angle, the more heat. The least direct angle, much lesser heat. For most of the world, the calendar year is divided into four mostly equal lengthed seasons, spring, summer, fall, and winter. When each season starts and ends depends on whether using the astronomical definition or the meteorological definition of each season. It also depends on whether it is the northern hemisphere or the southern hemisphere because each is opposite of each other because of the earth's tilt. For the northern hemisphere, the seasons are as listed to the right. The southern hemisphere uses the same dates but for the opposite season.

Read more:

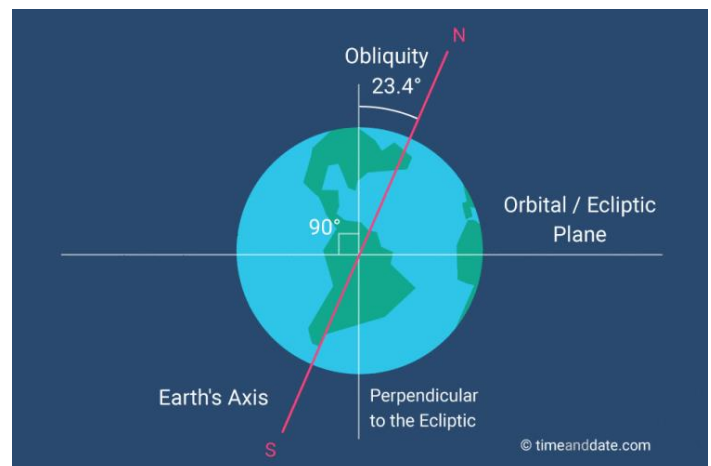
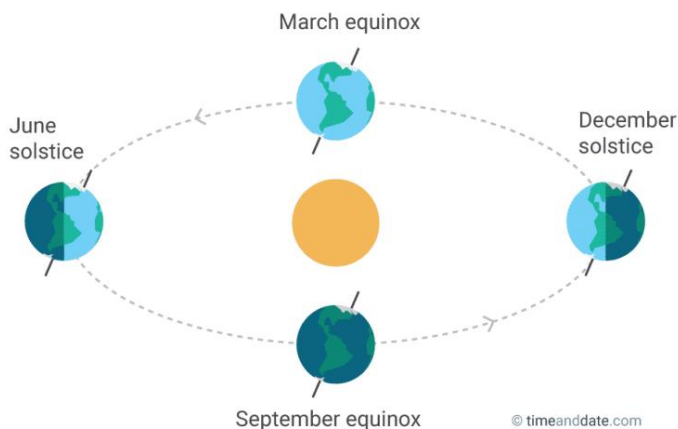
- <https://www.timeanddate.com/calendar/aboutseasons.html>
- <https://www.timeanddate.com/astronomy/seasons-causes.html>

2018-2019 Northern Hemisphere Seasons Dates

Spring	March 20 to June 20, 2018
Summer	June 21 to September 21, 2018
Fall	September 22 to December 20, 2018
Winter	December 21, 2018 to March 19, 2019

2018-2019 Southern Hemisphere Seasons Dates

Fall	March 20 to June 20, 2018
Winter	June 21 to September 21, 2018
Spring	September 22 to December 20, 2018
Summer	December 21, 2018 to March 19, 2019



Time Zones Basics

Time Zone Explanation

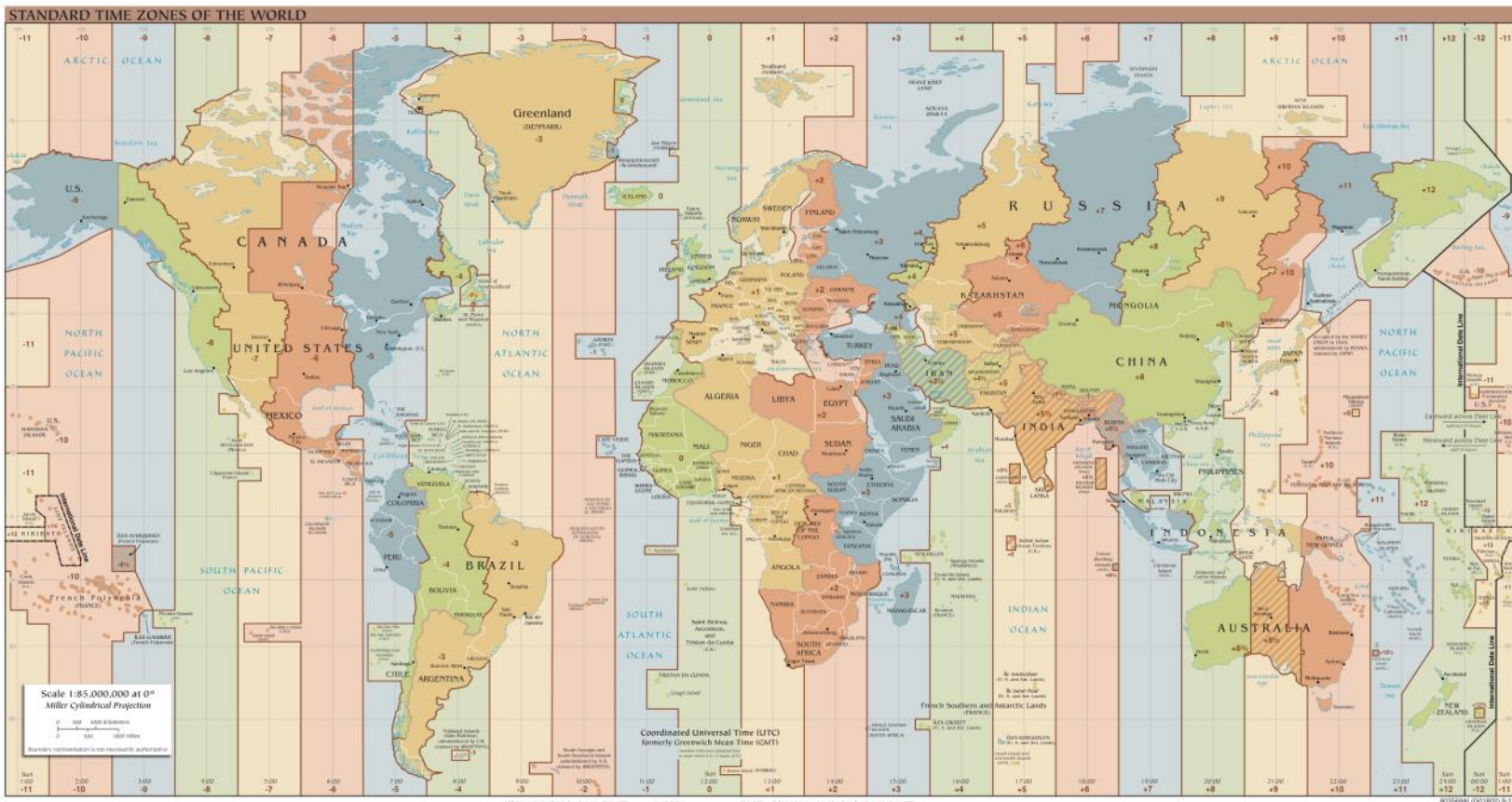
The term “time zone” can describe multiple things, but usually refers to the local time of a country or a region. In a perfect division of the longitudes of the earth, the 360° of the earth divided by 24 hours in a day would make each time zone one hour apart and set at every 15° longitude. However(!), the time zone borders were drawn on the map to align with national or subdivision (states, provinces) borders. Because of the complicated borders of the countries (or internal subdivisions), the time zone map is really askew and bizarre (read: really funky!), resulting in much more than 24 time zones that are not all just an hour apart! (I tried to find a clear number answer with no direct success. Apparently the division of the time zones is a very complex matter in some parts of the world that do not line up with a specific zone.)

Read more:

- <https://www.timeanddate.com/time/time-zones.html>
- <https://www.timeanddate.com/time/zone/usa>

Time Zones in the United States

Offset	Time Zone Abbreviation & Name	
UTC -10	HAST	Hawaii-Aleutian Standard Time
UTC -9	AKST	Alaska Standard Time
UTC -8	PST	Pacific Standard Time
UTC -7	MST	Mountain Standard Time
UTC -6	CST	Central Standard Time
UTC -5	EST	Eastern Standard Time



Some of these time zone divisions are really funky!

Time Zone History

Why Time Zones Exist

The use of modern time zones is relatively recent, not even 150 years old. Before the invention of the clock, sun dials and water clocks were the devices used for determining general time. Of course, these were specific to where they were and probably were not all that consistent. By 1794, the chronometer measured time without the use of a pendulum and independent of motion, land/sea scape, or environmental conditions. The main reason for the start of time zones (at least in the United States) is because of the developing railroads. Every train station kept its own time standard and was not consistent with other stations' time standards. Therefore, train schedules were nearly impossible to keep (and impractical to have) without some sort of time standard across the country that everyone would follow. While several private solutions provided a partial answer, it was not until the International Meridian Conference in Washington DC in October 1884 that a world wide solution would provide an international answer.

“The proposal stated that the prime meridian for longitude and timekeeping should be one that passes through the center of the transit instrument at the Greenwich Observatory in the United Kingdom. The conference established the Greenwich Meridian as the prime meridian and Greenwich Mean Time (GMT) as the world’s time standard. The international 24 hour time zone system grew from this, in which all zones referred back to GMT on the prime meridian.”

“The Standard Time Act of 1918, also known as the Calder Act, was the first United States federal law implementing Standard time and Daylight saving time in the United States. It authorized the Interstate Commerce Commission to define each time zone.”

(Refer to the previous page about the inconsistent division of the time zones around the world.)

Read more:

- <https://www.timeanddate.com/time/time-zones-history.html>
- https://en.wikipedia.org/wiki/Standard_Time_Act



1913 map of “standard time belts” in the United States. (Long before Alaska and Hawai’i statehood.)

Daylight Saving Time

Why Daylight Saving Time?

With the establishment of the Standard Time Act of 1918, daylight saving time was also established. In itself it became a very contentious idea. An act titled “An Act For the repeal of the daylight-saving law” was enacted on August 20, 1919 but then vetoed by President Woodrow Wilson. However, another source states that Daylight saving time was in fact repealed in 1919, but that standard time “in time zones remained in law, with the Interstate Commerce Commission (ICC) having the authority over time zone boundaries. Daylight time became a local matter. It was re-established nationally early in World War II, and was continuously observed until the end of the war.” From the spring through to the fall is considered being “on daylight saving time”, while from the fall to the spring is considered being “off daylight saving time”.

“The Uniform Time Act of 1966 provided standardization in the dates of beginning and end of daylight time in the U.S. but allowed for local exemptions from its observance. The act also continued the authority of the ICC over time zone boundaries. In subsequent years, the United States Congress transferred the authority over time zones to the U.S. Department of Transportation (DOT), modified (several times) the beginning date of daylight time, and renamed the three westernmost time zones.”

“Starting on March 11, 2007, DST was extended another four to five weeks, from the second Sunday of March to the first Sunday of November. The change was introduced by Representatives Fred Upton (R-MI) and Edward Markey (D-MA) and added to the Energy Policy Act of 2005.”

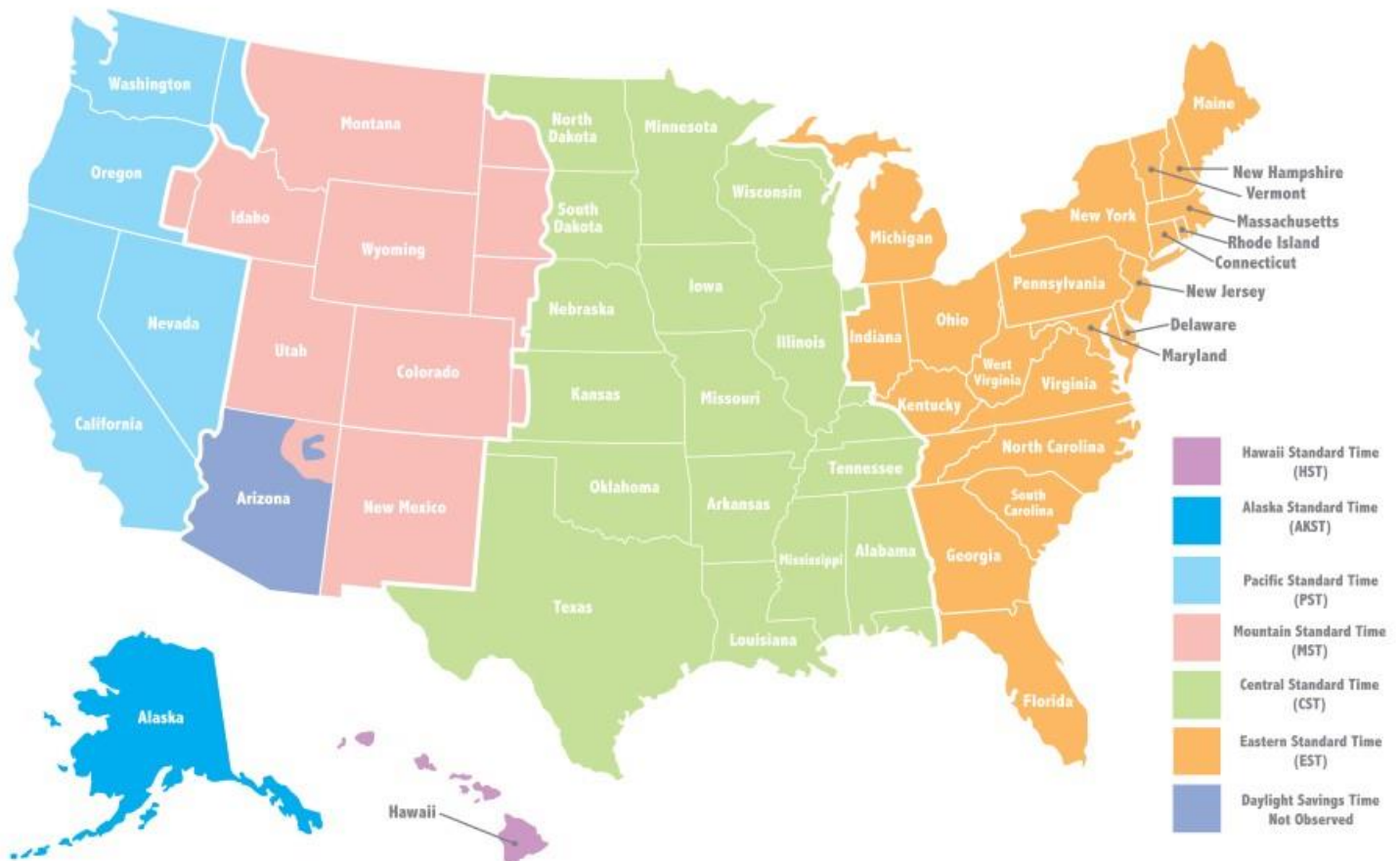
Arizona is the only state (minus the Navajo Reservation) that does not observe Daylight Saving Time.

So, what was the point of Daylight Saving Time?

Snopes states, “The purpose of the shift is to transfer, in effect, an hour’s worth of daylight from the early morning hours of the day, when only milkmen and chickens are awake to appreciate it, and use it to push back sunset until one hour later in the day. This arrangement claimed to cut electricity usage in the evening and help reduce traffic accidents.” DST proved to be unpopular in the 1910s. “The U.S. still had a large agrarian sector back then, and far fewer businesses stayed open into the later evening hours, so most people tended to rise and retire earlier than they do today, negating the practicality of shifting an hour’s worth of daylight away from early morning.”

Read more:

- https://en.wikipedia.org/wiki/Standard_Time_Act
- https://en.wikipedia.org/wiki/History_of_time_in_the_United_States
- <https://www.snopes.com/science/daylight.asp>



How Does Snow Form?

Snow is basically the formation of water into crystals upon nearing the freezing point of water or below. The temperature does not need to be exactly 32°F in order to form crystals. These tiny crystals will then stick together to form groups of “flakes” that we see falling to the ground. These “flakes” are clusters of multiple snowflakes. When it is exceptionally frigid, snow might fall as individual snowflakes.

Read more:

- <https://www.metoffice.gov.uk/learning/snow/how-is-snow-formed>
- <https://nsidc.org/cryosphere/snow/science/formation.html>

These photos from 2011 and 2012 show snowflakes on my truck. To my surprise (I'm not really sure why), I saw the six sided designs!



Timekeeping in the AD

Candle Clock

The candle clock most commonly mentioned and written of is attributed to King Alfred the Great (871-899). It consisted of six candles made from 72 pennyweights of wax, each 12 inches high, and of uniform thickness, marked every inch. As these candles burned for about four hours with each mark representing 20 minutes. Once lit, the candles were put in wood framed glass boxes, to prevent the flame from going out.



A candle clock. This version is a German candle clock called a Kerzenuhr, or literally, "candle watch".

Sundial

Sundials existed for timekeeping since Ancient Egypt. However, the modern sundial first appeared in the present form during the Renaissance (generally, the 1400s and 1500s) after the acceptance of heliocentrism (where the earth and planets revolve around the sun) and equal hour lengths. In ancient sun timekeeping, the length of an hour varied based on the time of year, shorter in winter and longer in summer.



A sundial is a means of measuring time that only worked in the day and when there was full sun in order to cast a shadow.

Hourglass

The hourglass was one of the few reliable methods of measuring time at sea, and it is speculated that it was used on board ships as far back as the 11th century, when it would have complemented the magnetic compass as an aid to navigation. From the 15th century onwards, hourglasses were used in a wide range of applications at sea, in churches, in industry, and in cooking. They were the first dependable, reusable, reasonably accurate, and easily constructed time measurement devices of the time period. The Portuguese navigator Ferdinand Magellan used 18 hourglasses on each ship during his circumnavigation of the globe in 1522.



The hourglass is probably the most recognized means of accounting for time, while in itself not a very accurate means to measure time in between the start and stop of the flow of sand. Symbolic meanings of the hourglass include: death, temperance, opportunity, and "Father Time" (most recognized at the new year to represent the year just completed).

Timekeeping in the AD

Pendulum Clock

Clocks started becoming more mechanical over time, but precision was still not quite there yet. The invention of the pendulum clock helped to regulate the clock's function. While Galileo Galilei investigated the pendulum for clocks (1580s), it was not until 1656 that Christiaan Huygens constructed the first pendulum clock. Over the next century, the style was refined and became commonplace in society.



Two styles of pendulum clocks:

Grandfather clock

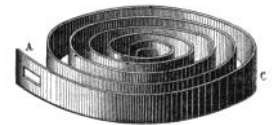
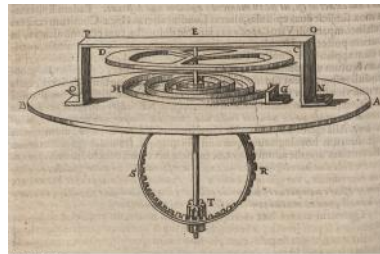
and

Vienna regulator style pendulum wall clock



Mainspring/Spiral Hairspring Watch

A mainspring is a spiral torsion spring of metal ribbon used as a power source in mechanical watches and some clocks. These springs require regular winding by turning a knob or key to twist the spiral tighter to store energy in the mainspring. A balance spring, or hairspring, causes the balance wheel to oscillate with a resonant frequency (to make the balance wheel run regularly). This overall series of inventions allowed clocks to become portable and eventually led to the pocket watch.



Examples of a:

- *Balance spring*
- *Main Spring*
- *Keys for winding*



Marine Chronometer

A marine chronometer is a timepiece that is precise and accurate enough to be used as a portable time standard. It can be used to determine longitude by means of celestial navigation. The first true chronometer was the life work of John Harrison (1693-1776), spanning 31 years of persistent experimentation and testing that revolutionized naval (and later aerial) navigation. Chronometer comes from Greek: chronos (meaning time) and meter (meaning counter), therefore "time counter". In 1735, Harrison completed a clock based on a pair of counter oscillating weighted beams connected by springs whose motion was not influenced by gravity or the motion of a ship.

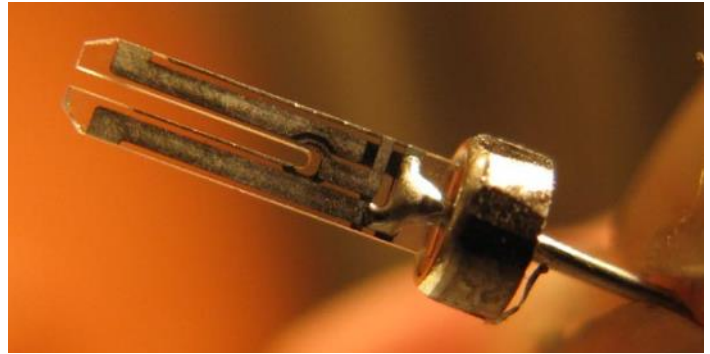


A marine chronometer, circa 1844-1860, by Charles Frodsham of London. Shown upside down to show the movement.

Timekeeping in the AD

Quartz Clock

A quartz clock is a clock that uses an electronic oscillator that is regulated by a quartz crystal to keep time. This crystal oscillator creates a signal with very precise frequency, making them a little more accurate than mechanical clocks. The first quartz clock was built in 1927 by Warren Marrison and J.W. Horton at Bell Telephone Laboratories. From the 1980s on, the advent of solid state digital electronics has allowed quartz to be made compact and inexpensive, making it the world's most widely used timekeeping technology found in most clocks, watches, computers, and other appliances.



A quartz crystal resonator, used as the timekeeping component in quartz watches and clocks. It is formed in the shape of a tuning fork. Most such quartz clock crystals vibrate at a frequency of about 33 kHz.

Atomic Clock

Atomic clocks are the most accurate timekeeping devices in practical use today. Accurate to within a few seconds over many thousands of years, they are used to calibrate other clocks and timekeeping instruments. The idea of using atomic transitions to measure time was first suggested by Lord Kelvin in 1879, although it was not until the 1930s with the development of Magnetic resonance that there was a practical method to do this. The first accurate atomic clock was in 1955 with a cesium standard based on a specific transition of the cesium-133 atom. The International System of Units standardized its unit of time, the second, based on the properties of cesium in 1967.



High purity cesium-133 stored in the inert gas argon. Cesium is highly reactive and ignites spontaneously in air and reacts explosively with any temperature of water.

Read more about time and tools to measure time at:

- <https://en.wikipedia.org/wiki/Time>
- <https://www.atlasobscura.com/places/urbano-sundial>
- https://en.wikipedia.org/wiki/Timeline_of_time_measurement_technology
- https://en.wikipedia.org/wiki/History_of_timekeeping_devices
- https://en.wikipedia.org/wiki/History_of_calendars

Timekeeping in the AD

“Water” Clock

A true water clock goes back to the ancient Greeks and even earlier. The “water” clock here represents a completely different style of clock that uses water to drive the clock’s function, but is not the actual time measurer.

This clock is in Cañon City, Colorado at the Royal Gorge Bridge visitor center. It uses a water wheel to run the clock and measures the time, day, month, and year in separate dials.

Unfortunately, the Royal Gorge fire on June 10, 2013 burned this specific clock along with areas around it. (The bridge was fine.)

After cleanup, they rebuilt the area and built a similar water clock near where the old one was.

Read more about the Royal Gorge bridge at:
<http://royalgorgebridge.com/>

And read more about this clock at:
<http://royalgorgebridge.com/rides-attractions/waterclock/>



I took this photo on August 3, 2006 at about 1:54 PM. (Check the clock!) This specific clock burned in the Royal Gorge Fire in 2013.



Clock Stopped June 10 at 8:05 PM

This clock burned in the Royal Gorge Fire in 2013 (apparently at 8:05 PM)



This is the new rebuilt water clock after the fire.