Ancient Egypt
Ancient Egyptians

- Only basic nocturnal timekeeping
- Yearly calendar secondary to Nile River Floods
- Sometimes needed a 13$^{th}$ “leap month”
- Regulated by the star Sirius
Ancient Egyptians

• Construction guides for the pyramids

• Related to some religious characters
Ancient Babylon
Babylonians

- Astronomy closely tied to religion
- Extensive catalogues and star charts meticulously kept for centuries!
- Earliest and most accurate calendars
- As far back as 1800 BCE
Babylonians

• 19 solar years = 235 lunar months
  ...to within +/- 2 HOURS!

• The star **Sirius** was most sacred
  (brightest star in the sky)

• Very influential on Greek astronomy
Babylonians
Babylonians

Astronomer priests (Tupsar Enuma Enlil) tracked social and astronomical phenomena together, eventually created...

The Zodiac!
INSANE base 60 system!

“Sexagesimal” numerical system still haunts us today

60 seconds per minute
60 minutes per hour
360 degrees per circle
12 divisions of a year
Ancient China
Ancient Chinese

- By 2300 BCE, they already had observatories!
- Very detailed records starting around the 4th Century, BCE
- Influenced by Indian and Islamic astronomers
Ancient Chinese

• By the 4th Century BCE, astronomers already knew the nature of...
  - solar and lunar eclipses
  - the Moon reflected light from the Sun
Ancient Chinese

- Calendars were very important
- Different ones signified unique dynasties and periods of history

Tang Dynasty Calendar
Fabulous “Guest Star”!

• 1054 CE

• Chinese astronomers notice a new “guest star” in the sky

• A supernova, now the Crab Nebula

• Few records anywhere else in the world!
Ancient Greece
Ancient Greeks

- Heavily influenced by the Babylonians
- Later, the Romans stole everything...
- Although steeped in Greek mythology, **astronomy becomes more scientific than religious**
Ancient Greeks

Planet -> Planetes -> “Wanderer”

The Greeks were annoyed that the planets did not follow perfect paths along the sky – they seemed to “wander” aimlessly.

Here’s what was actually happening!
Ancient Greeks

Greek Philosophy:

- The Heavens are PERFECT
- Completely different reality
- Everything must move in perfect circles

...But that’s not what we see

These extra circles were called Epicycles.
Celestial Spheres!!!
Ancient Greeks

- Greek stubbornness
- “perfect spheres” idea
- geocentric idea
= A FRUSTRATED BALL OF CRAP!!

- 3rd Century BCE
Aristarchus gets schooled by Aristotle, science suffers for over 1,000 years.
Ancient Greeks

• On the plus side...

They knew the Earth was round, thanks to a nifty experiment at Alexandria and Thebes...
Ancient Mayans

- Our calendar: 1 leap day every 4 years
- Mayan Calendar: 1 error in 6,000 years!
- 13 day week, 260 day year
- 20, 40, 8,000, and 158,000 year periods, nested into one 3 Million year cycle!
Ancient Mayans

- Earth was flat, held up by 4 colored jaguars (Go Jags!)
Ancient Mayans

- Pyramids coincide with astronomical events
- Chichen Itza Pyramid: Quetzalcoatl, the feathered serpent god

Sun illuminates the steps on equinoxes, showing a snake slithering down!
Ancient Mayans

- Spanish Conquistadores ruined... pretty much everything.

- Luckily, the **Dresden Codex** was preserved, showing their records of the night sky.

- 76 pages on tree bark
The “Long Count”

2012
OMGWTF?!?!?!!1!?!1?!?!?2?!?!1
Ancient Inca Empire

![Map of the Ancient Inca Empire](image)
Ancient Inca

- Biggest empire in Americas before European settlers
- Kept astronomical records on knotted cords called “quipus”
Ancient Aztecs

• 20 day month
• Each day named after a common object (tree day, skull day, rock day, etc.)

• Sun Calendar – 12 ft. across, 3 ft. thick, 24 TONS
European Medieval Times
Medieval (Dark Ages, 5-15th CE)

- Science? What science?!?!?
- Used mostly to decide holy days
- The Sun is holy, and circled the Earth – which was the center of the Universe (because God chose to put Man there)
- Kept crystal spheres from Greeks
Arabia & Persia
Arabia and Persia

- Academic/Intellectual golden age during European Dark Ages
- Mathematics – algebra, geometry
- Intricate tools (observing, navigation & travel)
Native North Americans
Native North Americans

- Loose timekeeping
- Basic navigation
- Sky and N S E W sacred
- Mythology and stories
Dogon People of Mali
Dogon People of Mali

- Claim knowledge of space given by aliens
- Sirius A & B, existence and rotation
- Jupiter’s moons
- Saturn’s rings