



Time Zones & Ellipse Pathway

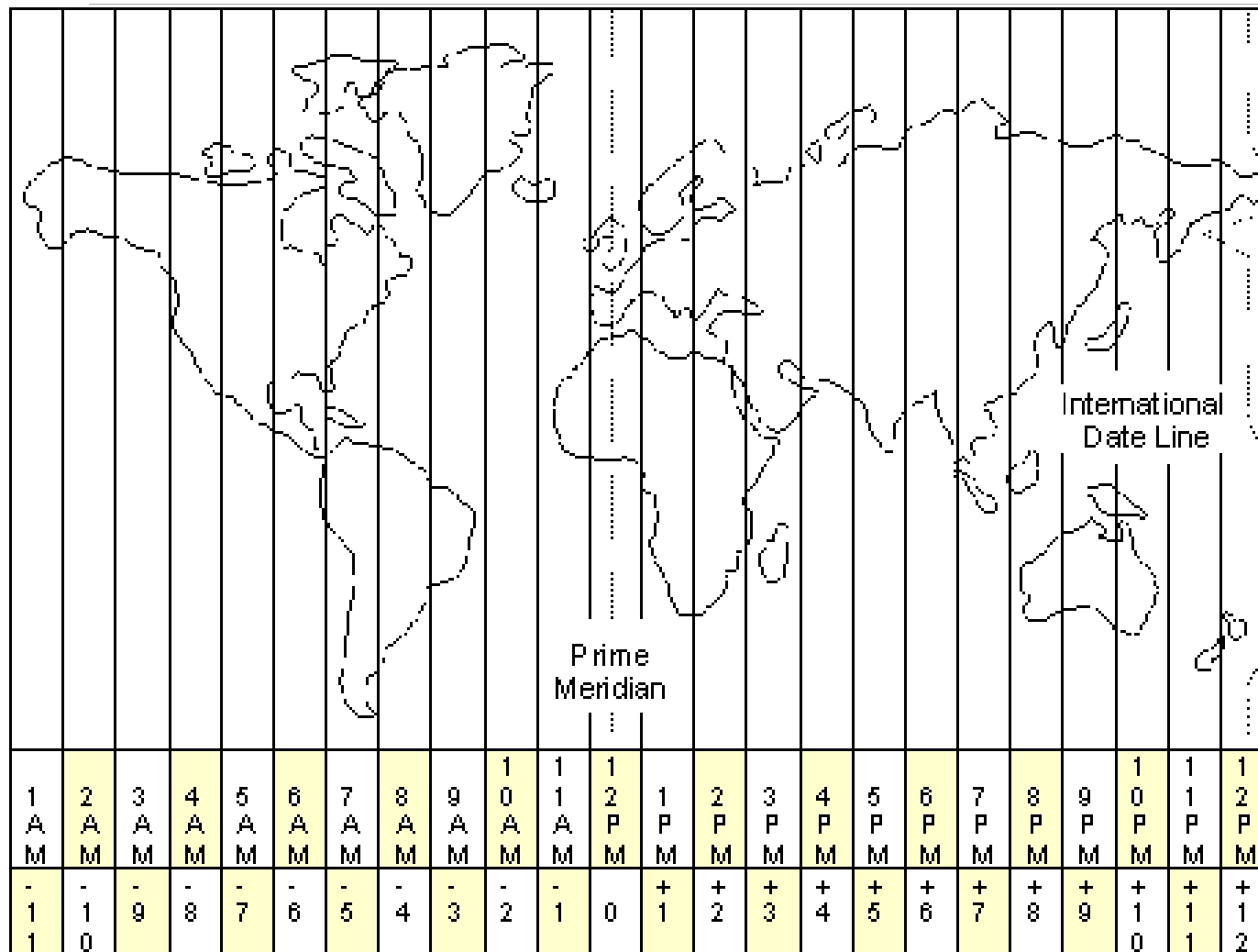
**Objective: Review
Earth's time zones and
an ellipse orbit around
the sun with
equinoxes & solstices.**



Research

- **Rotation of the Earth:** spins on its axis once every 24 hours.
- **Time Zones of the Earth:** The Earth is divided into 24 time zones.

Time Zones



GMT, Greenwich Mean Time, London



Research

Prime Meridian:

starting point for time zones – longitude line which passes through Greenwich, England.



Research

12 Time Zones to the West
of the Prime Meridian:
decrease in time

12 Time Zones to the East
of the Prime Meridian:
increase in time



Research

International Dateline:
longitude line through the Pacific Ocean. When you cross it moving east, you subtract a day. ***When you cross it moving west, you add a day.***



Research

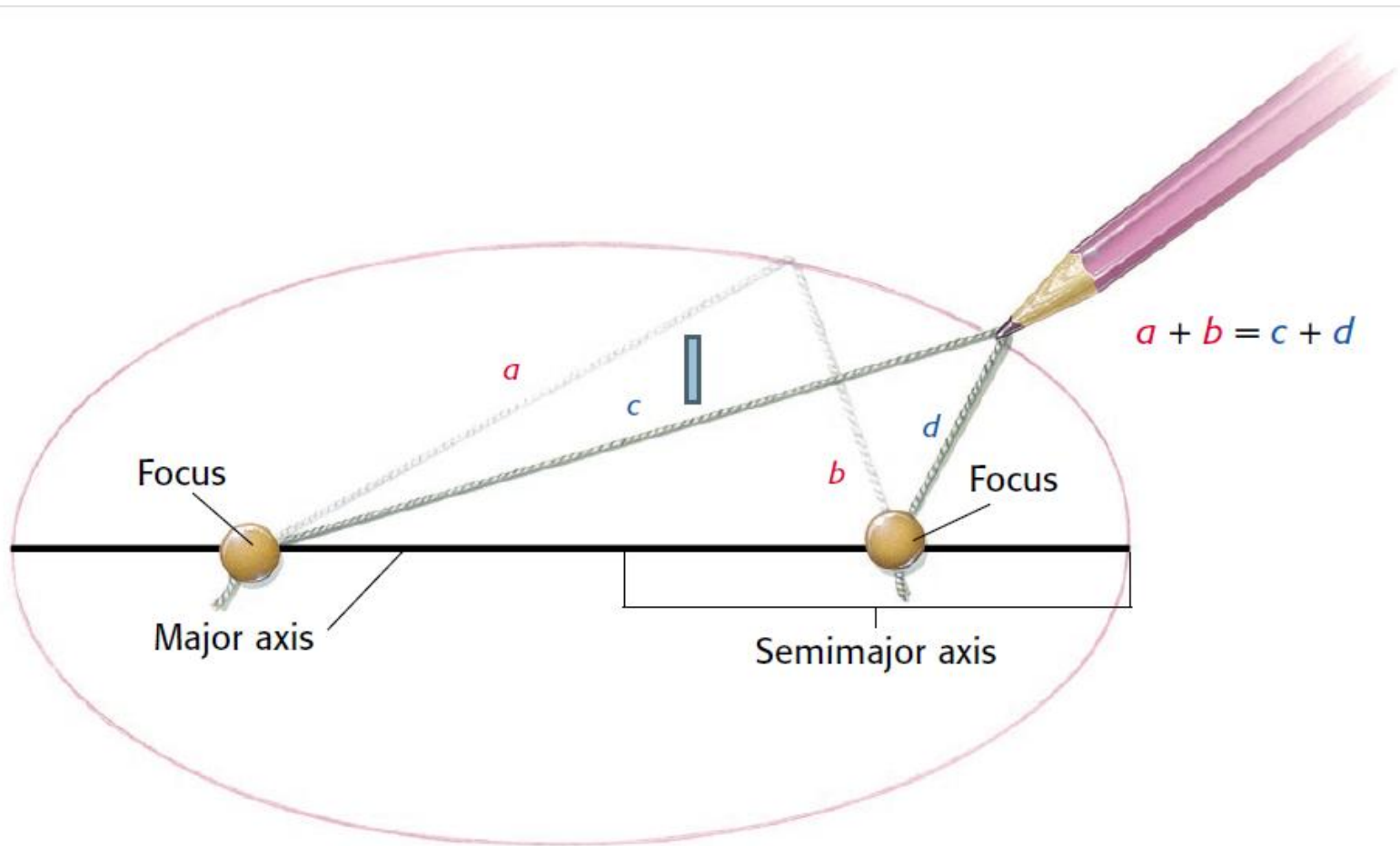
Daylight Saving Time:
**Most states use this
from March to
November. Set clocks
1hr ahead of their
time zone.**

Research

Leap Year: One orbit = 365 1/4 days. Once every four years a day is added to the calendar.

Earth revolves around the Sun in an orbit shaped like an ellipse or oval.

An Ellipse





Research

**Brightness of Mars as
seen from the Earth:
varies because
distance varies.**

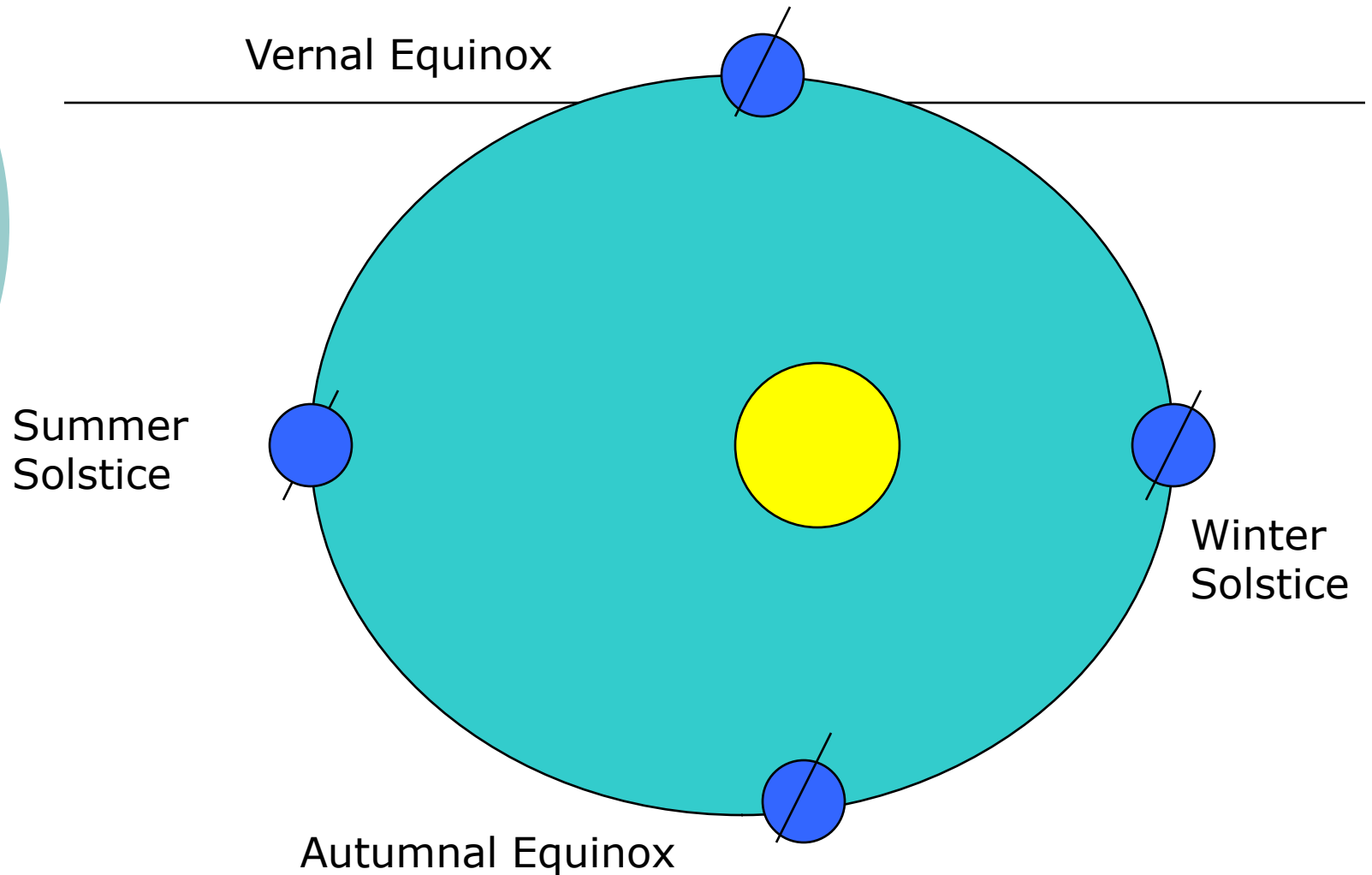


Research

Earth is closest to the Sun
during **winter** in the
northern hemisphere.

Farthest from the Sun during
summer in the northern
hemisphere.

Ellipse Pathway





Conclusions

How do you explain that
when Earth is closest to
the Sun, it is winter in the
Northern Hemisphere?

**Earth's north pole is
tilted away from the
Sun.**



Conclusions

The planets do not move at constant speed while moving in the elliptical orbits. A planet increases in speed as it gets closer to the Sun. What force causes this change in speed?

Gravity



Conclusions

Which part of Earth's revolution takes longest,
from vernal equinox to
autumnal equinox or from
autumnal to vernal?

**vernal equinox to
autumnal equinox**



Conclusions

If you placed a phone
call to Tokyo, Japan from
Greenwich, England on a
Friday at 4:00pm, what
day is it in Japan?

Saturday