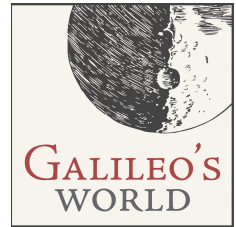# Introduction to the Celestial Globe: Ecliptic

EXHIBIT: *Galileo's World*
GALLERY: Music of the Spheres, Controversy over the Comets;
                      The Sky at Night; Space Science after Galileo

1. On a celestial globe, find the path of the Sun, or ecliptic.

Any constellation which contains the ecliptic is called a
Zodiac constellation. The ecliptic is important because
where the Sun travels, the planets follow. Bright stars in
zodiac constellations that don't appear on star charts are
wandering planets.

*2. Trace the great circle of the ecliptic around the celestial
globe. Identify the constellations of the Zodiac that include
the ecliptic.*

Early star atlases were based on the great circle of the Sun's annual path around the sky.

Celestial "longitude" measures in degrees along the ecliptic. By convention, the starting
point, or 0 degrees of celestial longitude, is a point on the celestial equator called the vernal
or March equinox.

3. Which constellation contains the March equinox?

Celestial "latitude" measures in degrees perpendicular to the ecliptic.

The ecliptic is the year-long path of the Sun against the background of fixed stars. An
equinox is where the ecliptic and celestial equator intersect.

4. How many equinoxes can you find?

5. What is the angle between the celestial equator and the ecliptic?

Because the ecliptic and the Earth's equator do not coincide, celestial latitude and celestial
longitude (based on the ecliptic) do not coincide with terrestrial latitude and longitude (based
on the celestial equator).

The star atlas of John Flamsteed was the first major atlas to use a grid based not on the ecliptic, but on the Earth's geographical coordinates. Flamsteed thus introduced the convention now used in modern star atlases of basing star positions on the celestial equator rather than the ecliptic.

See also the Introduction to Zodiacal Motion.