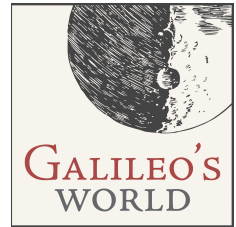


Introduction to the Celestial Globe

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



The night sky looks like an upside down bowl set on the horizon, but as it turns around during the night it is easy to think of it as a giant sphere. To think of the stars as lying on the inside surface of a giant celestial sphere which rotates around us once a day explains the appearances of the sky with simplicity and elegance. With good reason this common-sense explanatory scheme was adopted by ancient astronomers, and it remains the most convenient way to learn observational astronomy today.

Any rotating sphere has two **poles** at each end of the axis of rotation, and an **equator** which cuts the sphere in half. The equator lies in a plane perpendicular to the axis of rotation.



With a celestial globe, identify the north and south celestial poles and the celestial equator.

Note that the constellations depicted on a celestial globe appear reversed, since you're on the "outside looking in." Look through and across a celestial globe to inspect the constellations as they appear from Earth.

A "great circle" cuts a sphere into two equal halves. On a celestial globe, find 3 great circles:

1. **Horizon**, based on one's location on the surface of the Earth.
2. **Celestial equator**, a projection of the Earth's equator.
3. **Ecliptic**, or path of the Sun.

Experiment with these three circles on the celestial globe in each of their own Celestial Globe activities.

Activities related to the celestial globe:

1. Introduction to the **Celestial Globe**
2. Introduction to the Celestial Globe — **Horizon**
3. Introduction to the Celestial Globe — **Celestial Equator**
4. Introduction to **Diurnal Motion**
5. Introduction to the **Nocturnal Dial**
6. Introduction to the Celestial Globe — **Ecliptic**
7. Introduction to the **Zodiac**
8. Introduction to **Zodiacal Motion**
9. Introduction to the **Planisphere**
10. Introduction to the **Constellations**
11. Introduction to **Orion** the Hunter
12. Star Names and the **Orientation of Constellation Figures**
13. Introduction to the **Big Dipper**
14. Finding Constellations with the Big Dipper
15. Introduction to the **Sextant and Quadrant** (Protractor)
16. Introduction to the **Armillary Sphere**
17. Introduction to the **Astrolabe**
18. Introduction to **Retrograde Motion**

Provided by the **OU Academy of the Lynx**:
Collaborating in exhibit-based learning, oulynx.org
(Ask about the *Galileo's World* iPad Exhibit Guide)

