Name: _____ **Date:** _____

Starfield: Ace Earth's Orbital Mechanics for 11th Grade

Sidereal time, Milankovitch cycles, and orbital eccentricity — perfect for a high school astronomy bell-ringer or formative assessment review session.

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1. Which term describes the slight 'wobble' in Earth's axial orientation that completes a full cycle approximately every 26,000 years?

A. Eccentricity
B. Precession
C. Obliquity
D. Retrograde motion

2. True or False: A sidereal day is approximately four minutes shorter than a standard 24-hour solar day.

A. True
B. False

3. The point in Earth's elliptical orbit where it is closest to the Sun is known as _____.

A. Aphelion
B. Zenith
C. Perihelion
D. Nadir

4. During a Neap Tide, the Sun and Moon are positioned at what angle relative to Earth?

A. 0 degrees (Alignment)
B. 45 degrees
C. 90 degrees (Right angle)
D. 180 degrees (Opposition)

5. True or False: The Foucault Pendulum provides physical evidence that the Earth is revolving around the Sun.

A. True
B. False

6. What is the primary cause of the change in the altitude of the Noon Sun throughout the year?

A. Changing distance from the Sun
B. The Moon's phase cycles
C. Varying speeds of rotation
D. Earth's axial tilt relative to its orbit

7. An observer at the North Pole would see the stars moving in _____ circles around the zenith.

A. Vertical

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B. Horizontal
C. Diagonal
D. Elliptical

8. Which Milankovitch cycle refers to the change in the shape of Earth's orbit from more circular to more elliptical?

A. Axial tilt
B. Obliquity
C. Eccentricity
D. Precession

9. True or False: A Total Solar Eclipse can only occur during the New Moon phase.

A. True
B. False

10. The _____ refers to the apparent deflection of moving objects caused by Earth's rotation, influencing global wind patterns.

A. Doppler Effect
B. Coriolis Effect
C. Greenhouse Effect
D. Photoelectric Effect