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Crash Course Astronomy #25: Distances

Name: _____ Date: _____

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1. The technique used to estimate the distance to nearby objects by their apparent shift when viewed from two different positions is called _____.
2. The ancient Greeks observed that ships disappeared bottom-first over the horizon, which supported the idea that the Earth is _____.
3. Eratosthenes used the angle of sunlight in different cities and some geometry to estimate the Earth's _____.
4. During a lunar eclipse, the shadow of the Earth on the Moon allows observers to see the _____ of the Earth's edge.
5. Aristarchus of Samos used the Earth's size as a reference to estimate the distances and _____ of the Moon and Sun.
6. Early astronomers struggled to calculate the distance to planets until _____ and Newton developed the mathematics of planetary orbits.
7. To accurately calculate the distance to planets, astronomers needed to know the distance from the Earth to the _____.
8. The term used for the average distance from the Earth to the Sun is the _____.
9. One method for estimating the astronomical unit involved timing transits of _____ and Mercury across the Sun.
10. The most precise measurement of the astronomical unit came from bouncing _____ off Venus in the 1960s.
11. Knowing the astronomical unit allowed astronomers to predict the movements of planets and launch _____ into space.
12. The apparent shift in position of a nearby star when observed from opposite sides of Earth's orbit is called _____.
13. Because even Earth's orbit is too small for nearby stars, astronomers use another unit called the _____, which is based on a parallax shift of one arcsecond.
14. The distance light travels in one year, used for measuring vast cosmic distances, is known as a _____.
15. If two stars are equally bright intrinsically, the farther one appears dimmer due to light spreading with the square of the _____.

Crash Course Astronomy #25: Distances KEY

1. The technique used to estimate the distance to nearby objects by their apparent shift when viewed from two different positions is called **parallax**.
2. The ancient Greeks observed that ships disappeared bottom-first over the horizon, which supported the idea that the Earth is **round**.
3. Eratosthenes used the angle of sunlight in different cities and some geometry to estimate the Earth's **circumference**.
4. During a lunar eclipse, the shadow of the Earth on the Moon allows observers to see the **curve** of the Earth's edge.
5. Aristarchus of Samos used the Earth's size as a reference to estimate the distances and **sizes** of the Moon and Sun.
6. Early astronomers struggled to calculate the distance to planets until **Kapler** and Newton developed the mathematics of planetary orbits.
7. To accurately calculate the distance to planets, astronomers needed to know the distance from the Earth to the **Sun**.
8. The term used for the average distance from the Earth to the Sun is the **astronomical unit**.
9. One method for estimating the astronomical unit involved timing transits of **Venus** and Mercury across the Sun.
10. The most precise measurement of the astronomical unit came from bouncing **radar** off Venus in the 1960s.
11. Knowing the astronomical unit allowed astronomers to predict the movements of planets and launch **probes** into space.
12. The apparent shift in position of a nearby star when observed from opposite sides of Earth's orbit is called **parallax**.
13. Because even Earth's orbit is too small for nearby stars, astronomers use another unit called the **parsec**, which is based on a parallax shift of one arcsecond.
14. The distance light travels in one year, used for measuring vast cosmic distances, is known as a **light year**.
15. If two stars are equally bright intrinsically, the farther one appears dimmer due to light spreading with the square of the **distance**.

15 Questions

Answer Key Included

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