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Crash Course Physics #46: Astrophysics and Cosmology

Name: _____ Date: _____

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1. A _____ is the distance that light travels in one year in a vacuum.
2. The phenomenon where the wavelength of light stretches as an object moves away from us is called _____.
3. The _____ effect explains why sound or light waves change frequency depending on the movement of the source.
4. _____ is the study of the overall universe, including its origin and eventual fate.
5. The closest star to Earth after the sun is _____ Centauri.
6. One _____ is equal to approximately 3.26 light-years.
7. A _____ is a device that separates light into different wavelengths to determine the composition of a star.
8. The observed relationship between the redshift of galaxies and their distance from Earth is known as _____ Law.
9. The idea that the universe began in a hot, dense state and has been expanding ever since is called the _____ Theory.
10. Radiation left over from the Big Bang is known as the _____ microwave background.
11. A form of energy causing the accelerated expansion of the universe is known as _____ energy.
12. The type of unseen mass that doesn't emit or reflect light but affects galactic motion is called _____ matter.
13. The _____ Way is the name of our home galaxy.
14. Astronomers use the redshift of galaxies to determine how _____ they are moving away from us.
15. _____ energy and dark matter together make up the majority of the universe's energy and mass.

Crash Course Physics #46: Astrophysics and Cosmology KEY

1. A **light-year** is the distance that light travels in one year in a vacuum.
2. The phenomenon where the wavelength of light stretches as an object moves away from us is called **redshift**.
3. The **Doppler** effect explains why sound or light waves change frequency depending on the movement of the source.
4. **Cosmology** is the study of the overall universe, including its origin and eventual fate.
5. The closest star to Earth after the sun is **Proxima** Centauri.
6. One **parsec** is equal to approximately 3.26 light-years.
7. A **spectrometer** is a device that separates light into different wavelengths to determine the composition of a star.
8. The observed relationship between the redshift of galaxies and their distance from Earth is known as **Hubble's** Law.
9. The idea that the universe began in a hot, dense state and has been expanding ever since is called the **Big Bang** Theory.
10. Radiation left over from the Big Bang is known as the **cosmic** microwave background.
11. A form of energy causing the accelerated expansion of the universe is known as **dark** energy.
12. The type of unseen mass that doesn't emit or reflect light but affects galactic motion is called **dark** matter.
13. The **Milky** Way is the name of our home galaxy.
14. Astronomers use the redshift of galaxies to determine how **fast** they are moving away from us.
15. **Dark** energy and dark matter together make up the majority of the universe's energy and mass.

15 Questions

Answer Key Included

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