

Name _____

The Role Of Dark Matter

Short Answer Key

1. Dark matter is a mysterious substance that does not emit, absorb, or interact with electromagnetic radiation like light. It is challenging to detect because it only interacts through gravity, making it invisible and elusive.
2. Dark matter influences the formation of galaxies by providing a gravitational scaffolding upon which galaxies form. Its gravitational pull enhances the attraction of matter, helping bind stars and gas together.
3. Dark matter halos are enormous, invisible regions of dark matter surrounding galaxies. They play a significant role in shaping galactic structure and dynamics by providing additional mass and gravitational influence.
4. A galactic rotation curve is a graph that shows the orbital speeds of stars within a galaxy as a function of their distance from the galactic center. It provides evidence for dark matter by revealing that stars in the outer regions of galaxies orbit at higher speeds than expected based on visible mass alone.
5. Dark matter's gravitational influence can lead to gravitational encounters and mergers between galaxies, shaping their interactions and cosmic dances.

