

Name \_\_\_\_\_

## A Universe on the Move

### Short Answer Key

1. Cosmic inflation explains the uniformity of the cosmic microwave background radiation by suggesting that all regions of the universe were in contact with each other during the inflationary period, allowing them to reach the same temperature and consistency.
2. Cosmic inflation was triggered by two key components: dark energy, a mysterious force opposing gravity, and the inflaton field, a hypothetical field that stored energy and led to rapid expansion.
3. Implications of cosmic inflation include explaining the flatness of the universe, resolving the horizon problem in cosmology, and providing initial density fluctuations that enabled the formation of galaxies and large-scale structures.
4. Confirming evidence of cosmic inflation is important for cosmology because it would validate a critical component of the Big Bang Theory and help us understand the universe's early moments.
5. If cosmic inflation were disproven, our understanding of the early universe's expansion and the formation of galaxies would require a significant reevaluation. It might lead to the development of new theories and explanations for these cosmic phenomena.

