

***Discussion Questions***

1) Briefly explain why stars that formed early in the history of the galaxy contain a smaller proportion of heavy elements than stars that formed more recently.

2) Why do spiral arms have a blue color?

3) Briefly explain why white-dwarf supernovae are useful for measuring cosmic distances.

4) Why does the merger of two spiral galaxies often trigger starbursts?

5) What is Olbers' paradox, and what is its resolution?

6) Briefly describe the two key pieces of evidence that support the Big Bang theory.

7) Briefly describe two different ways of measuring the mass of a cluster of galaxies.

8) Explain how observations of white-dwarf supernovae provide information on the expansion of the universe when it was younger.

9) What is the evidence that suggests planetary systems are common in the universe?

10) If we detected an Earth-like planet in the habitable zone around another star, how might we learn whether it harbored life?