

Section: Stellar Evolution (page 781)

- _____ 1. Why are astronomers not able to observe the entire life of any star? (1)
- a. because of the movement of stars
 - b. because a star typically exists for billions of years
 - c. because the light of stars reaches Earth millions of years later
 - d. because a star typically does not exist long enough to be observed

CLASSIFYING STARS (page 781)

2. What is the Hertzsprung-Russell diagram? (3)

3. What is the main sequence? (3)

STAR FORMATION

- _____ 4. What is a nebula? (1)
- a. a cloud of gas and dust where a star begins
 - b. an explosion where dust collects
 - c. a false image of a star
 - d. a group of planets where a star begins
- _____ 5. What is Newton's law of universal gravitation? (1)
- a. None of the objects in the universe attract each other through gravitational force.
 - b. All objects in the universe attract each other through magnetic force.
 - c. None of the objects in the universe attract each other through magnetic force.
 - d. All objects in the universe attract each other through gravitational force.
- _____ 6. Gravitational force increases as the mass of an object (1)
- a. decreases or as the distance between two objects decreases.
 - b. increases or as the distance between two objects increases.
 - c. increases or as the distance between two objects decreases.
 - d. decreases or as the distance between two objects increases.
7. What happens as more matter is pulled into a protostar? (2)
8. What is important about the onset of fusion? (2)
9. What happens as gravity increases the pressure on the matter within a star? (2)
10. How long does a main sequence star maintain a stable size? (2)

THE MAIN-SEQUENCE STAGE (783)

- _____ 11. What is the second and longest stage in the life of a star? (1)
- a. the fusion stage
 - b. the stellar equilibrium stage
 - c. the main-sequence stage
 - d. the nebula stage

- _____ 12. A star that has the same mass as the sun's mass (1)
- a. stays on the main sequence for about 10 million years.
 - b. stays on the main sequence for about 10 billion years.
 - c. stays on the main sequence for about 14 billion years.
 - d. stays on the main sequence for about 100 billion years.

LEAVING THE MAIN SEQUENCE (page 784)

13. When does a star enter its third stage? (2)

THE FINAL STAGES OF A SUNLIKE STAR (page 785)

- _____ 14. What is a planetary nebula? (1)
- a. a cloud of gas that forms around a sun like star that is dying
 - b. a cloud of gas that forms as a star is born
 - c. a cloud of energy that is hard to identify
 - d. a cloud of helium that forms around a star that is starting to fuse
- _____ 15. What is a white dwarf? (1)
- a. a cool, extremely scattered core of matter leftover from an old star
 - b. a hot, extremely scattered core of matter leftover from a red giant
 - c. a hot, extremely dense core of matter leftover from an old star
 - d. a cool, extremely dense core of matter leftover from a red giant
- _____ 16. What is a black dwarf? (1)
- a. a white dwarf that no longer gives off light
 - b. a white dwarf that starts to give off more light
 - c. a black star that becomes a white dwarf
 - d. a star that is dying
- _____ 17. An explosion on a white dwarf caused by a pressure build-up is a (1)
- a. red giant.
 - b. black dwarf.
 - c. supergiant.
 - d. nova.
- _____ 18. What effect may a nova have on a star? (1)
- a. It may cause it to become many thousands of times brighter.
 - b. It may destroy the star.
 - c. It may cause it to turn into a giant.
 - d. It may cause it to become many thousands of times dimmer.
19. Describe a supernova and how it differs from a nova. (3)

THE FINAL STAGES OF MASSIVE STARS ((page 786)

- _____ 20. Stars that have masses of more than 8 times the sun's mass produce supernovas (1)
- a. with the help of a secondary star.
 - b. rarely.
 - c. without needing a secondary star to fuel them.
 - d. on a regular basis.
21. What happens to the carbon atoms in a collapsing Massive Star as temperatures rise and fusion begins again? (2)
22. What is a neutron star? (2)
23. Describe how a black hole forms. (3)
24. Why is locating black holes difficult? (2)