Science Test
Chapter 1: Stars and Galaxies

Name __________________________
Hour _______ Date ________

Multiple Choice
Write the letter of the answer that best completes each statement.
(Have students circle the correct responses)

1. A band of colors formed when white light passes through a prism is called a
   a. lens.                c. spectrum.  
   b. photograph.          d. ray.

2. Astronomers use optical telescopes to detect
   a. radio waves            c. X-rays.        
   b. infrared radiation    d. visible spectrum.

3. What characteristics of a star indicates whether the star is moving toward or away from the Earth?
   a. size.                      c. roundness.  
   b. age.                        d. spectrum.

4. The attraction between galaxies, which are composed of huge amounts of matter, is due to
   a. changes in air pressure.    c. gravity.     
   b. light spectra patterns.    d. temperature variations.

5. Evidence that supports the big bang theory of the origin of the universe includes the fact that galaxies
   a. are speeding away from the center of the universe. 
   b. are collected at the center of the universe. 
   c. exert a force on other galaxies in space. 
   d. give off radiation.

6. The main factor that shapes the life and eventual death of a star is its
   a. mass.                    c. temperature. 
   b. color.                   d. diameter.

7. According to astronomers, most stars are actually in paired stars called
   a. nebulae.                  c. galaxies.   
   b. novas.                   d. binaries.

8. Stars that suddenly increase in brightness and then get dim are identified as
   a. novas.                       c. quasars. 
   b. nebulae. [nebulae (don't misspell items)]     d. galaxies.

9. A star that will live the longest has a starting mass that is
   a. extra large.              c. medium sized. 
   b. small.                    d. large.
10. An astronomer determines the surface temperature of a star by its
   a. size.
   b. color.
   c. brightness.
   d. position in the sky.

11. What element makes up more than 60% of the mass of a typical star?
   a. nitrogen.
   b. carbon.
   c. neon
   d. hydrogen.

12. The brightness of a star as it appears on Earth is referred to as the star’s
   a. absolute magnitude.
   b. spectrum.
   c. apparent magnitude.
   d. nuclear fusion.

13. Black holes result from the death of
   a. protostars.
   b. medium-sized stars.
   c. supermassive stars.
   d. white dwarfs.

14. Magnitude refers to a star’s
   a. color.
   b. size.
   c. brightness.
   d. distance to Earth.

Completion
Fill in the word or number that best completes each statement.

1. To a casual observer, stars appear as small points of ______ in the
   night sky.

2. Arrange the following stars in order of size from the smallest to
   the largest: (1) sun-sized stars, (2) white dwarf stars, (3) giant stars,
   (4) supergiant stars.

3. The ______ cycle of a star represents the various stages a star goes
   through from “birth” to “death”.

4. Great heat given off during nuclear fusion in a nebula causes a
   (an) ______ to form.

5. The ______ of a star is the main factor in shaping its life cycle.

6. The core of a very massive star is so hot that fusion continues
   until the heavy element ______ is formed.

7. The amount of light a star actually gives off is called its ______.

8. In a (an) ______, light passes through a prism and is broken into a ______
   band of colors.

9. Planet Earth is located in the ______ Galaxy.

10. The unit used to measure the distances between celestial objects
    is the ______.
Essay
Choose one of the questions below to answer in the space given. You must do one. Circle your choice.

1. In your own words, describe the big bang theory.
2. Describe how scientists use the spectroscope and spectrum to get information about stars and what information can be gained.
3. Describe the possible life cycle of our sun.

Choice # ______

*Provide a listing of terms students should use in their essay.*