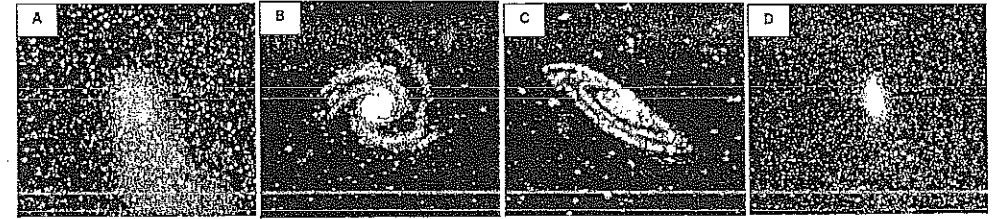


Name:

The Universe Review

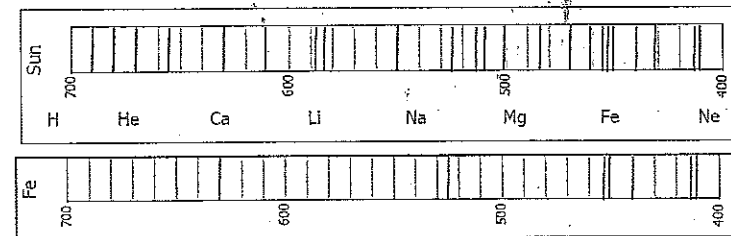
1. Which galaxy below is an elliptical galaxy? D



2. Describe each term below and draw an example of each. Which galaxy above, A-D, goes in each section? Write the letter in the correct sections.

Galaxy	<u>D</u> Elliptical Galaxy	<u>B+C</u> Spiral Galaxy	<u>A</u> Irregular Galaxy
	<p>a large collection of stars held together by gravity. contain large amounts of dust and gas.</p> <p>oval or egg shaped larger galaxies very little dust + gas made of older stars.</p>	<p>Flat with bulging center surrounded by spiral arms. Bulge = old stars Arms = younger stars Milky way</p>	<p>Do not have a distinct shape due to gravitational pull of nearby galaxies.</p>

3. Is Iron (Fe) an element present in the sun? Yes



B 4. A light-year is
 A) 365 days. B) the distance light travels in a year. C) the distance from Earth to Proxima Centauri. D) the amount of light the sun produces in a year.

A 5. What color are the hottest stars?
 A) blue-white B) yellow C) red D) orange

C 6. The Hertzsprung-Russell diagram shows that main sequence stars
 A) are mostly hot and dim. B) are mostly cool and bright. C) increase in brightness as they increase in temperature. D) decrease in brightness as they increase in temperature.

A 7. The Milky Way Galaxy is a
 A) spiral galaxy B) cloud galaxy C) elliptical galaxy D) irregular galaxy

8. The theory that astronomers have developed to describe the beginning of the universe is called the
 A) expanding cloud theory. B) time warp theory. C) galactic expansion theory. D) big bang theory.

9. One piece of evidence that supports the big bang theory is the observation that most galaxies are moving
 A) toward our galaxy. B) toward one another. C) in random. D) away from one another.

10. The chemical composition of a star can be determined using a
 A) refracting telescope. B) satellite. C) spectroscope. D) reflecting telescope.

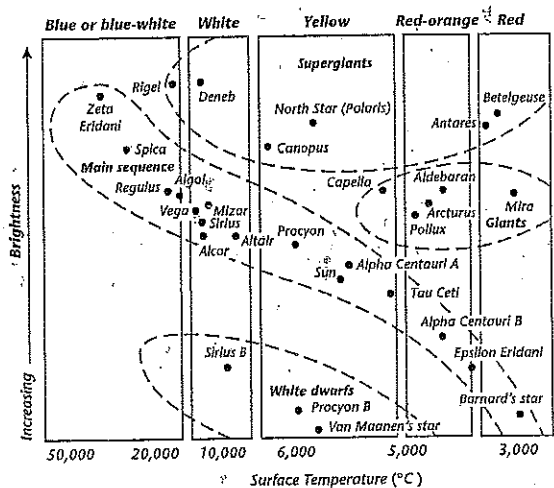
11. The Hertzsprung-Russell diagram shows the relationship between a star's temperature and absolute magnitude.

12. A galaxy that does not have a regular shape is classified as a(n) irregular galaxy.

13. A(n) Spiral galaxy has a characteristic pinwheel shape.

14. If a star is 20 light minutes away and it stops creating light, how long will it be before we stop seeing the light? 20 minutes

Hertzsprung-Russell Diagram



15. Using the figure, name a star that is red and on the main sequence. Barnard's Star

16. Explain how Barnard's star and Mira are similar and how they are different. Both are Red with low surface temperature.

17. Describe three features of the star Deneb. White 10,000°C Supergiant

→ Barnard's Star is main sequence
 Mira is a Red Giant

18. What is the Big Bang Theory?
universe began from densely packed matter that's still expanding

19. Explain the two main pieces of evidence that support the Big Bang Theory.

universe is expanding
Background microwave radiation
Red Shift

20. How does red shift show that the universe is still expanding?

Galaxies are moving away from us in the universe.

21. What does the Hertzsprung - Russell diagram show?

Stars luminosity + surface temp.

22. What is a light-year? How do scientists use light-years?

Light years are used to measure the distance light travels.

23. If the star is located 4.3 light years away, how long will it be before we see the light of the star?

4.3 years

24. Describe the characteristics of our sun.

Yellow main sequence

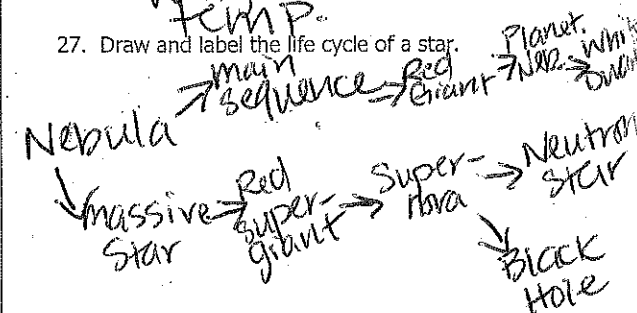
25. Sketch the Milky Way Galaxy. Label the approximate location of our sun. Spiral



26. What can astronomers determine about stars from the light that they emit?

composition (chemical)
direction traveling
distance
weight
temp.

27. Draw and label the life cycle of a star.



28. What are two other words for brightness?

Luminosity
absolute magnitude

29. Determine the number of protons, neutrons and electrons for the element Sulfur. Use APE MAN.

P = 16
E = 16
N = 16
32 mass
-16 Atomic #
16 Neutron

30. How many ATOMS are in the following chemical formula: H₂SO₄

7

31. Describe the effect an unbalanced force has on the motion of an object.

unbalanced causes objects to accelerate.

32. What is acceleration?

Speed up, slowdown, change direction, turn!