

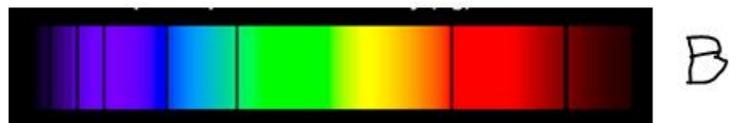
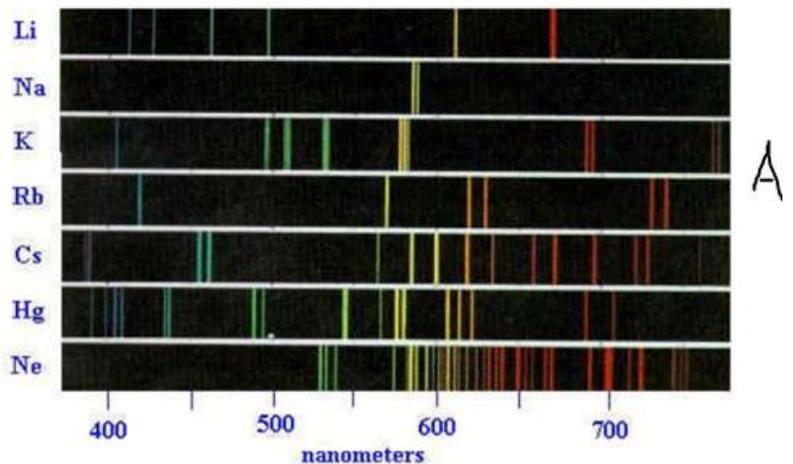
Practice Quiz – Stars and The Universe, Part 1

- What is the general name that includes all gamma rays, X-rays, infrared radiation, visible light, ultraviolet light, etc.?  
 a. Electromagnetic radiation    b. Cosmic Rays    c. Sound waves    d. Space waves
- The speed of light is approximately:  
 a. 671mph    b. 671m/s    c. 671 thousand mph    d. 671 million mph    e. 671 billion mph
- Which wavelength is longest?  
 a.     b.   
 c.     d. 
- When the colors of the rainbow are ordered from shortest to longest wavelength, which color comes after green light? In other words, what color has a wavelength that is barely **longer** than green?  
 a. Red    b. Orange    c. Yellow    d. Blue    e. Indigo    f. violet
- Which of these colors has waves with the most energy?  
 a. Red    b. Orange    c. Yellow    d. Blue    e. Indigo    f. violet
- What is a light year?  
 a. The time it takes for light to travel from the Sun to the Earth  
 b. The time it takes for the sun to complete one full revolution  
 c. The distance light travels in one year  
 d. Light's speed multiplied by time

7. Diagram A, on the right, shows spectral lines of several known substances. If the spectrum shown in diagram B was produced by starlight passing through the outer layers of a star, what substance was in the star?

Li Na K Rb Cs Hg Ne

- What type of spectrum was produced by starlight passing through those outer layers (diagram b)?  
 a. An absorption spectrum  
 b. An emission spectrum



9. Which of the following correctly lists, in order, possible stages in the life cycle of a star **similar in size to our Sun**?
- Nebula, White Main sequence Star, Red giant, Supernova, Black hole
  - Nebula, Blue Main sequence Star, Red giant, White Dwarf, Black Dwarf
  - Red giant, White Dwarf, Black Dwarf
  - Nebula, White Main sequence Star, Red giant, White Dwarf, Black Dwarf
  - Yellow Main sequence Star, Red giant, White Dwarf, Black Hole
10. Which of the following correctly lists, in order, possible stages in the life cycle of a star that is **much larger than our sun (25 times larger)**?
- Nebula, White Main sequence Star, Red giant, Supernova, Black hole
  - Nebula, Blue Main sequence Star, Red giant, White Dwarf, Black Dwarf
  - Nebula, Red giant, White Dwarf, Black Dwarf
  - Nebula, Blue Main sequence Star, Red giant, White Dwarf, Black Dwarf
  - Yellow Main sequence Star, Red giant, White Dwarf, Black Hole
11. When a star turns into a white dwarf, its color changes to white because:
- It begins fusing carbon
  - Pressure is decreasing
  - It is losing color
  - It is heating up
  - The type of matter in the star is changing
12. During what part of star's life cycle is energy produced by nuclear fusion?
- Nebula
  - Main Sequence Star
  - White Dwarf
  - Black dwarf
13. Which star color is the coolest?
- White
  - Orange
  - Red
  - Yellow
  - Blue
14. If you could travel to the center of our sun, what would you find there?
- Hydrogen
  - Helium
  - Iron
  - Gold
  - Uranium?
15. What is the heaviest product of nuclear fusion in a very massive star (25 solar masses)?
- Hydrogen
  - Helium
  - Iron
  - Gold
  - Uranium
16. Where did all of the matter in the Universe that is heavier than iron originate?
- Core of a medium main sequence star
  - The Big Bang
  - Core of a super-massive main sequence star
  - A Supernova
  - A Black hole
17. Black holes form whenever...
- The mass left over after a supernova is greater than 3 solar masses.
  - The mass left over after a supernova is greater than 1.4 solar masses.
  - Nuclear fusion stops in a star
  - A star is cold enough to collapse
  - Light cannot travel through space
18. Which of the following may form from the material that is left over immediately after a supernova?
- a main sequence star
  - a black dwarf
  - a neutron star
  - a meteor shower

19. The surface of a red giant is:
- cooler than an ordinary star, because it is no longer fusing hydrogen
  - cooler than an ordinary star, because hydrogen is fusing at a lower pressure
  - hotter than an ordinary star, because it is bigger
  - hotter than an ordinary star, because the fusing hydrogen is spread out
20. If the gas pressure suddenly increased inside a star, what sequence of events would follow?
- Expansion, cooling, and decreased gas pressure
  - Contraction (shrinking), heating, and increased gas pressure
  - Expansion, heating, and increased gas pressure
  - Contraction (shrinking), cooling, and decreased gas pressure
  - Contraction (shrinking), cooling, and increased gas pressure
21. If the gas pressure suddenly decreased inside a star, what sequence of events would follow?
- Expansion, cooling, and decreased gas pressure
  - Contraction (shrinking), heating, and increased gas pressure
  - Expansion, heating, and increased gas pressure
  - Contraction (shrinking), cooling, and decreased gas pressure
  - Contraction (shrinking), cooling, and increased gas pressure
22. When a supernova occurs...
- Hydrogen fusion increases
  - Gas pressure increases until the star explodes.
  - Gravity decreases, allowing the star's layers to fly outward at near the speed of light.
  - The star's outer layers fall inward, hit the core, and then bounce outward.

