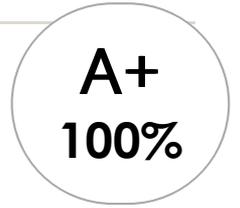


## 18 Multiple choice questions



1. cooler areas on the Sun's surface; also areas of weaker magnetic fields
  - a. universe
  - b. pulsar
  - c. **CORRECT: sunspots**
  - d. supernova
  
2. electromagnetic waves with wavelengths shorter than violet light
  - a. supernova
  - b. **CORRECT: ultraviolet**
  - c. universe
  - d. star
  
3. the balance between the forces of gravity causing a star to collapse, and the outward forces due to the energy released in nuclear reactions
  - a. stellar evolution
  - b. star
  - c. pulsar
  - d. **CORRECT: stellar equilibrium**
  
4. the fundamental building blocks of matter
  - a. star
  - b. **CORRECT: quark**
  - c. x-ray
  - d. pulsar
  
5. a star at the end of its evolution; its mass similar to the sun with diameter the size of the earth; no nuclear processes are continuing, and it eventually ends up as a cold black dwarf
  - a. red giant
  - b. **CORRECT: white dwarf**
  - c. quark
  - d. star

6. a vast mass of gas hot enough to initiate fusion reactions
  - a. pulsar
  - b. quark
  - c. x-ray
  - d. **CORRECT: star**
  
7. a shell of gas expanding outwards from a star in the later stages of its evolution, between the red giant and white dwarf stages
  - a. positron
  - b. **CORRECT: planetary nebulae**
  - c. supernova
  - d. ultraviolet
  
8. high frequency electromagnetic waves of high penetration
  - a. pulsar
  - b. star
  - c. **CORRECT: x-ray**
  - d. quark
  
9. everything that exists
  - a. pulsar
  - b. quark
  - c. sunspots
  - d. **CORRECT: universe**
  
10. the end result of a massive star, which explodes and increases in brightness by 1 billion times or more; in the explosion the heavier elements are formed
  - a. quark
  - b. star
  - c. sunspots
  - d. **CORRECT: supernova**

11. the different stages in a star from its birth to its death
  - a. **CORRECT: stellar evolution**
  - b. stellar equilibrium
  - c. ultraviolet
  - d. spectroscope
  
12. a star in its larger stages of evolution after it has moved from the main sequence and expanded to a size hundreds of times larger
  - a. red shift
  - b. quark
  - c. **CORRECT: red giant**
  - d. positron
  
13. the spontaneous breakdown of an atom by the emission of alpha and/or beta and gamma rays
  - a. **CORRECT: radioactivity**
  - b. red giant
  - c. x-ray
  - d. red shift
  
14. a positive electron; an antiparticle
  - a. **CORRECT: positron**
  - b. universe
  - c. pulsar
  - d. star
  
15. an optical device used to disperse light from a source into its spectrum
  - a. positron
  - b. supernova
  - c. ultraviolet
  - d. **CORRECT: spectroscope**

16. the shift of the spectral lines from a receding light source, towards the red end of the spectrum
- CORRECT: red shift**
  - red giant
  - star
  - pulsar
17. a series of nuclear fusion reactions by which stars generate energy; the overall effect is to convert 4 hydrogen nuclei into 1 helium nucleus
- CORRECT: proton-proton chain**
  - sunspots
  - spectroscope
  - positron
18. another name for a neutron star
- x-ray
  - star
  - CORRECT: pulsar**
  - quark