

1. The most common element in the Sun is
helium.
nitrogen.
iron.
hydrogen.
2. The visible surface of the Sun is called the photosphere. (Do not capitalize or include punctuation.)
3. The granulation pattern that astronomers have observed on the surface of the Sun tells us that
the Sun's surface is made of a thin solid that cracks easily.
the Sun expands and contracts with a four week cycle.
hot material must be rising from the Sun's hotter interior.
the Sun is a lot cooler on the inside than on the outside.
4. What features characterize the chromosphere of the Sun?
Blackbody radiation emitted from a granulated surface with occasional sunspots.
Dense gaseous zone dominated by the convective transport of energy.
Very hot gases that extend to great distances from the Sun and emit X-rays.
A pinkish color and jets of rising gas called spicules.
5. The hottest region in the Sun's atmosphere is the corona. (Do not capitalize or include punctuation.)
6. Sunspots are cooler areas on the visible surface of the Sun. **True** False
7. Astronomers have concluded that the Sun's activity varies in an 11-year cycle. Which of the following statements about this cycle is true?
The Sun's radius changes during the 11 year cycle, expanding to its largest size when there are the fewest sunspots.
When sunspots are at a minimum, we observe the largest number of flares and prominences.
The number of sunspots gets larger and smaller over the course of 11 years.
Every 11 years sunspots completely cover the Sun, making its surface much darker.
8. Large loops of material projected off of the Sun that follow the magnetic field lines of the Sun are called prominences. (Do not capitalize or include punctuation.)
9. Place the following layers of the Sun in order from the center outward, with 1 being the innermost layer and 7 being the outermost layer.
1 - core
2 - radiative zone
3 - convective zone
4 - photosphere
5 - chromosphere
6 - corona
7 - solar wind

10. What is hydrostatic equilibrium in the Sun?

The balance between the energy flow outward and the gravitational pressure inward in the Sun.

The balance between the magnetic field pushing inward and the gravitational pressure outward in the Sun.

The balance between the numbers of protons and electrons in the sun.

The balance between the magnetic field pushing against the rotation of the Sun.

11. Which region in the Sun has the greatest density?

The convective zone.

The core.

The photosphere.

The corona.

12. What process is most likely producing the energy in the Sun?

Nuclear fission, the breaking up of larger nuclei to create smaller nuclei plus energy.

Slow release of gravitational energy by material falling inward.

Chemical energy from the combination of hydrogen and oxygen atoms to form water.

Nuclear fusion, the combination of small nuclei to create larger nuclei plus energy.