

Life Cycle of a Star

Worksheet and Puzzles

Step One

Stars change during their lifetime, which can be _____ of years long. They start out as diffuse clouds of _____ and _____ drifting through space. One of these clouds is called a _____.

Step Two

The force of _____ pulls the nebula together causing a _____ to form. Heat and pressure begin to build until _____ begins to take place. Inside the core, _____ atoms smash together and are fused into heavier _____ atoms. This process generates an enormous amount of _____ and the star ignites becoming a _____ star.

Step Three

Our _____ is a main sequence star about halfway through its _____ billion year long life as a main sequence star. Eventually our sun will use up all of its hydrogen and it will start to expand to many times its current size to become a _____.

Step Four

What happens after this point depends on the _____ of the star. A star the size of our sun will enter the _____ phase, which means it loses its outer layers. The star's mass is lost until it collapses into a _____ dwarf, which will lose energy and become a _____ dwarf.

Step Five

Stars bigger than our sun will collapse so quickly they explode into a _____. The core that is leftover after a supernova may form a _____ star. If the leftover core was above a certain mass, it will continue to collapse in on itself and form a _____. Its gravity is so powerful that nothing within its range can escape, not even _____!

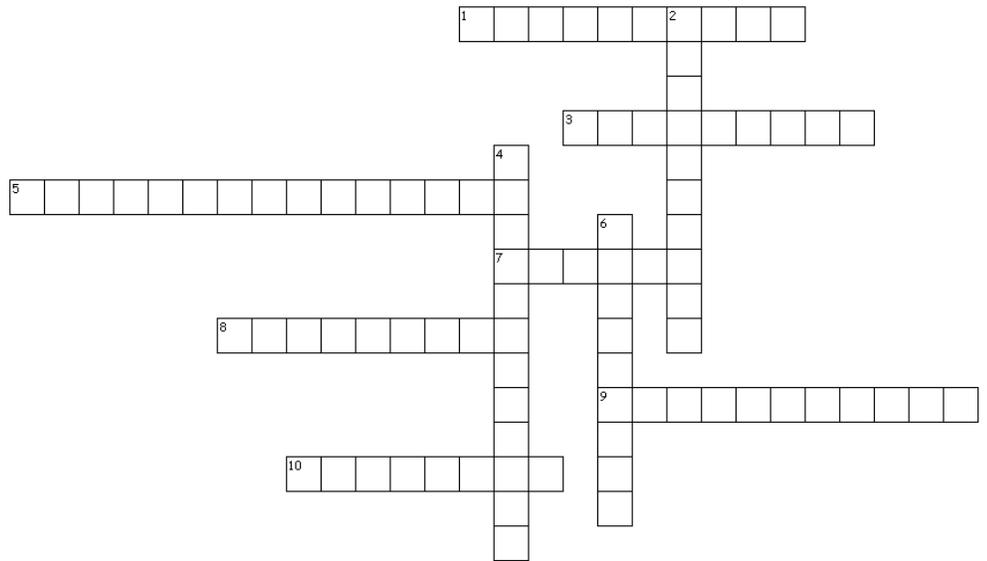
Word Bank

gas	sun	ten	neutron
white	billions	red giant	black hole
supernova	helium	planetary nebula	gravity
nebula	mass	black	light
hydrogen	energy	dust	
nuclear fusion	main sequence	protostar	

Crossword Puzzle

Across

1. final stage of a low mass star
3. stage after nebula
5. stage after red giant for a low or medium mass star
7. stage before protostar
8. stage after supernova for a very high mass star
9. stage after supernova for a high mass star
10. stage after main sequence



Down

2. stage after planetary nebula
4. stage after protostar
6. stage after red giant for a high mass star