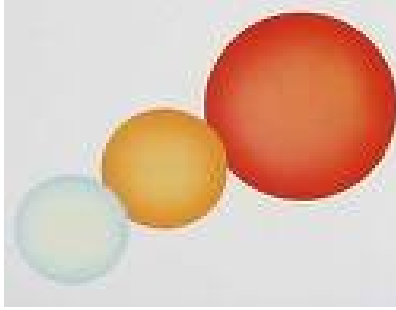


Red giants & Supergiants



How Red giants & supergiants are formed

The red giants and the supergiants are formed when the stars supply of Hydrogen runs out. The stars swell up to become red giants, the more massive stars form to become a supergiant. The transformation size occurs when Hydrogen runs out and Helium is used as an alternative.

Sizes of Red giants

The size of a red giant does depend on the size of the star. Generally it swells up to 200 times the diameter of the sun. Once the Helium starts burning the stars reduces to 10-100 times the diameter of the sun.

Sizes of supergiant

The stars that form into supergiants are often 8 times the mass of the sun. The supergiants expand to 1000 times the diameter of the sun. Their source of energy is the fusion of Helium as is the red giants.

Inside the red giant

The source of energy for the star is the nuclear fusion reactions that occur inside the core. The core is tiny due to the Hydrogen source being depleted, the core isn't much larger than Earth, the temperature is at 100 million degrees allowing to burn the Helium and perform the fusion reactions. The enormous temperature and pressure within the core allows it to produce energy by fusing Helium and building heavier elements. Outside the core a thin shell, known as the outer shell, of Hydrogen continues to make Helium.

Determining the temperature

The temperature of a supergiant can be determined by the colour of the surface. This is the order in terms of the temperature, which is hottest and which is coolest. The blue is often the hottest, followed by white, then yellow and then red. The blue temperature is in a range around 20500, white is 9430, yellow is ranging around at 5700 to 6930, red is ranged at 3040 to 4400.