

# What is a Star?

By Sanela Brekalo

There are thousands of tiny, twinkling lights visible to the naked eye every night in the sky. Each one is a star, thousands of **light years** away and potentially the center of a solar system of its own – just like our sun.

The nearest star to the Earth is the sun. The next closest star to the Earth is Alpha Centaurin, which is 4.3 light years away. Stars produce incredible amounts of energy in the form of heat and light.



We classify stars by their **spectra**, which involves the elements that they absorb and their temperature. Although all stars are very hot compared to temperatures here on Earth, they vary greatly. In order of decreasing temperature there are seven main types of stars that we identify with the letters O, B, A, F, G, K and M. We also classify stars by their size and age.

Mature stars shine because they are converting the element hydrogen into the element helium deep inside their core. This creates energy – heat and light – that look like fire. Stars appear to be different colors as they shine due to temperature, not to **composition** (what they are made up of). The hotter the star, the bluer it appears. And the cooler the star, the redder it appears.

Stars are, in a way, big balls of burning hot gas. But they are quite important to us. Not only do stars play a big role in many human cultures, but all life on our planet also depends upon the sun. Without it, life would not exist.