The Sun is White

For you graphics people or web developers out there, the exact color of the sun is #fff5f2. The reason the Sun looks yellow to us on Earth is that our atmosphere scatters light from the Sun; so the apparent color of the sun changes. This same scattering effect is why the sky looks blue in the day time instead of black, like at night.
Specifically, what is going on here is the Earth’s atmosphere scatters light in the blue and violet wavelength range, so the remaining wavelengths of light appear yellow. This same effect is why the sky will also often appear yellow when the Sun is disappearing over the horizon, as well as why the sky/Sun can appear more red at times during this phase of the day.

As the sun is setting, more of the shorter wavelength blue is being scattered because of the decreased angle of the sun relative to you; thus the light has to pass through more atmosphere to get to you. This increased diffusion results in less of the blue wavelength being visible to you and thus what remains appears yellow. Similarly, if it is dusty or there are a lot of other larger particles in the air, this will filter out larger wavelengths, resulting in a red sky and red sun.

**Facts:**

- Light travels from the Sun to the Earth in about 8 minutes and 19 seconds.

- While it only takes 8 minutes and 19 seconds for the light from the surface of the sun to reach us, it actually takes about 10,000-170,000 years for a photon to travel from the core of the sun to the surface.

- Once regarded by astronomers as a small and relatively insignificant star, the Sun is now known to be brighter than about 85% of the stars in the Milky Way.

- The Sun has an effective surface temperature of 5780 K, which is equivalent to just under 10,000 F and 5500 C.
The core of the Sun has a density almost 150 times the density of water on Earth. The temperature at the core is close to 14 million Kelvins and Celsius degrees, or 25 million degrees F.

About 3/4 of the Sun’s mass consists of hydrogen, with most of the rest being helium (23.8%) and about 2% remaining consisting of other elements such as iron, oxygen, carbon, neon, and a variety of others.

The Sun generates its energy from nuclear fusion at its core fusing the hydrogen nuclei into helium. The nuclear fusion is self regulating; if the Sun’s diameter gets smaller while maintaining the same mass, the pressure at the core increases creating more nuclear fusion which in turn causes it to expand. If it expands maintaining the same mass, the pressure lessens in the core causing less nuclear fusion. So a natural equilibrium has resulted in this process with our Sun, though there are stars that can be observed going through this process of massive expansion and contraction at very steady rates.

At the core of the Sun, nuclear fusion power produced is estimated at about 276.5 watts/m^3. Interestingly this power production is more equivalent to a reptile’s metabolic energy production than what we would think like a nuclear bomb.

This is in contrast to the amount of energy per (W/m^2) deposited on the surface of the Earth from the Sun, which is about 1368 W/m^2.

Each second more than four million tons of matter are converted to energy within the Suns core. At this rate, the Sun has so far converted 100 Earth masses of matter into energy. This will give the sun an effective lifetime as a
main sequence star of about 10 billion years with about 5 billion years to go.

The Sun does not have enough mass to go supernova and explode. However, in about 5 billion years it will enter a red giant phase steadily expanding until it consumes the Earth. But fear not, the Earth will already be dead in about 1 billion years due to the fact that the sun becomes about 10% brighter every billion years; so in 1 billion years the Earth’s surface temperature will be such that no liquid water will be able to exist unprotected on the surface of the Earth.

The Sun orbits the center of the Milky Way at a distance of approximately 24,000-26,000 light years.

The Sun completes a clockwise orbit of the Milky Way center in about 225-250 million years.

The Sun is about 150 million km or about 93 million miles from the Earth; this is by definition one astronomical unit (1 AU).

The Sun is almost a perfect sphere; its diameter at its poles differs from the diameter at its equator by only 10 km or 6 miles.

The area of the sun we call the “surface” is really just the outermost layer that radiates a significant amount of light. There is actually quite a bit of the Sun above that layer.
The Sun’s magnetic field is less than half of what it was just 22 years ago. This has shrunk the Sun’s heliosphere which helps protect the earth from cosmic radiation. Because of this, the Earth is now being struck with significantly more cosmic radiation than just a couple decades ago.

Source: [here](#)
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