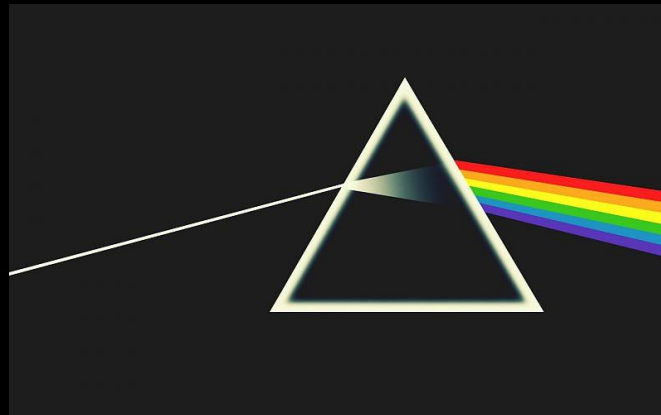




LIGHT

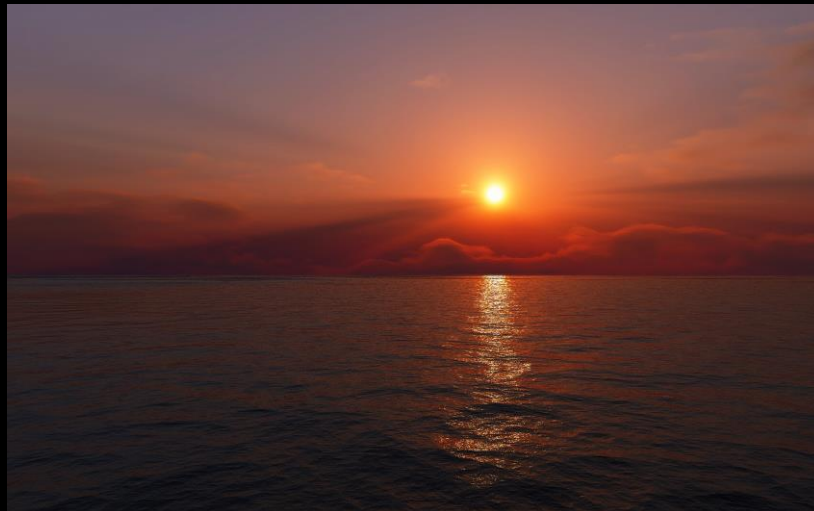
WHY IS THE SKY BLUE?

When white light shines through a prism, the light is separated into all its colors. It is worth to mention that some light travels in short, waves and other travels in long waves (Blue light waves are shorter than red light waves). Sunlight reaches Earth's atmosphere and is scattered in all directions by all the gases and particles in the air. Blue light is scattered in all directions by the tiny molecules of air in Earth's atmosphere. Blue is scattered more than other colors because it travels as shorter, smaller waves. This is why we see a blue sky most of the time.



WHY IS THE SUN RED DURING THE SUNSET AND SUNRISE?

As the sun gets lower in the sky, its light is passing through more of the atmosphere. Even more of the blue light is scattered, allowing the reds and yellows to pass straight through to your eyes.



WHY DOES THE SUN APPEAR TO BE YELLOW?

When you try to look near the sun, light that was trying to get to your eyes gets scattered away and so the remaining light has a lot less blue and slightly more red compared with white light, which is when the sun and sky directly around it appear yellowish during the day.



HOW DO WE SEE COLOURS?

White light is a mixture of all colours, including those that the human eye can't see. When we say something has colour, what we actually mean is that light of a particular range of wavelengths is reflected more strongly than light of other wavelengths. How matter behaves in the presence of light, consequently appearing coloured to us humans, depends on a couple of major factors. First of all — everything is made up of electrons and atoms, but each substance has a different number of atoms and different electron configuration. This way, when light hits matter one or more of the following phenomena happens: reflection and scattering, absorption, transmission, refraction.

TYNDALL EFFECT

The Tyndall effect is the scattering of light as a light beam passes through a colloid. The individual suspension particles scatter and reflect light, making the beam visible. The amount of scattering depends on the frequency of the light and density of the particles. blue light is scattered more strongly than red light by the Tyndall effect.

Water →



← Colloidal mixture (water+soap)