

## Class-10<sup>th</sup> (Assignment-9)

### (Human Eye and Colourful world)

#### (Scattering of light)

When a beam of light strikes with fine particles of dust and molecules of air it get scatter, this phenomenon is known as scattering of light. The colour of scattered light depends upon the size of the particle.

#### Why is the colour of the clear sky is blue?

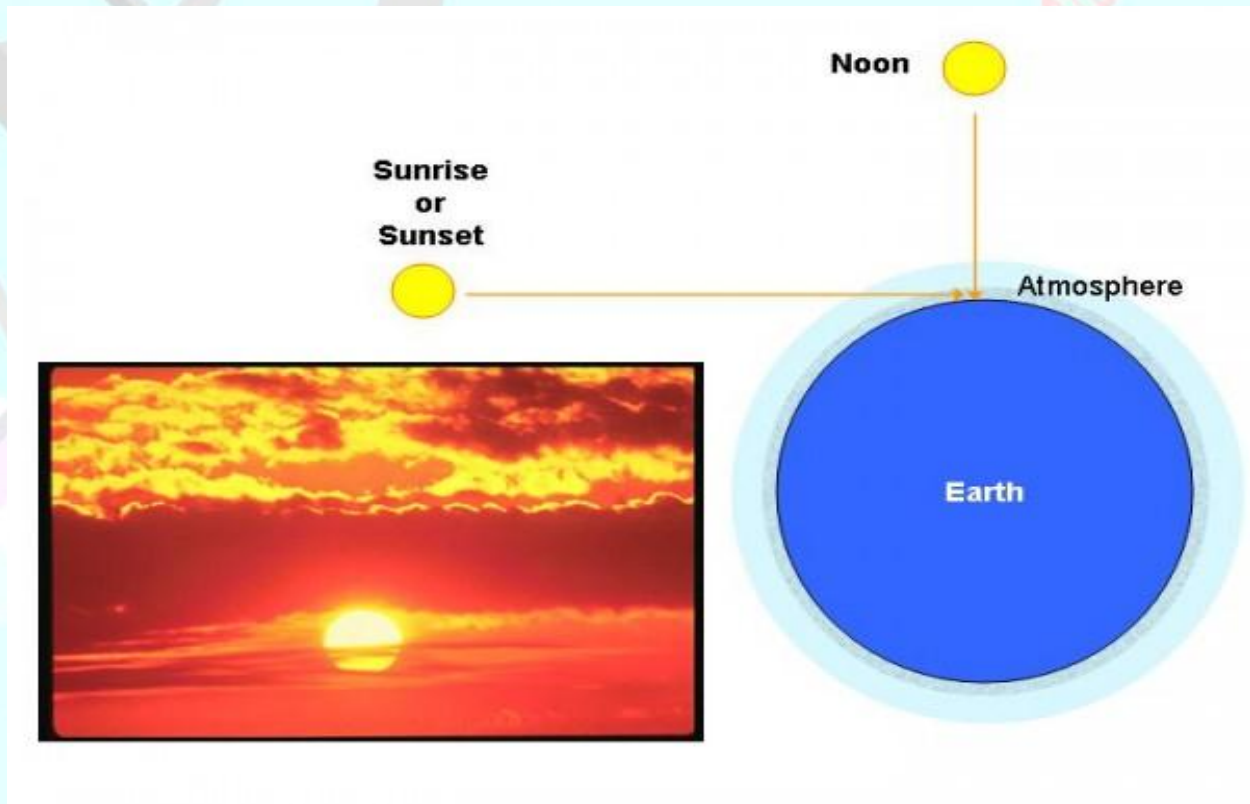
When sunlight passes through the atmosphere, the fine particles in the air scatter the blue colour( shorter wavelength) more strongly than the red. The scattered blue light enters our eyes. If the earth had no atmosphere, there would not have been any scattering, and then the sky would have looked dark.



#### Why colour of the sun at sunrise and sunset is red?

Light from the sun near the horizon passes through thicker layers of air and larger distance in the earth's atmosphere before reaching our eyes. However light from the sun overhead would travel relatively shorter distance. At noon, the sun appears white as only a little of the blue and violet colours are scattered. Near the horizon, most of the blue light and shorter wavelengths are scattered away by the particles. Therefore, the light that reaches our eyes is of longer

wavelength that is of red colour. This gives rise to the reddish appearance of the sun during morning and evening



### Why danger signals are of red colour?

The wavelength of red colour is maximum , therefore it scatters least. So the danger signals are of red colour.

