

Blue Sky

This simple experiment demonstrates why the sky is blue and sunsets are red.

What You Need

glass

milk powder

torch

Instructions

Fill a glass with water. It is even better if you can use a jug or even a tank. Shine a torch through. Nothing much will happen to the colour of the light.

Next add milk powder to the water and stir. Look at the torch through the water and into the water from above.

Keep adding more milk powder and repeating the observations.

Comment

The milk particles scatter some of the light. They scatter blue light more than red light as it has a shorter wavelength. This means that viewing from above you see blue light but from straight on you are left with red light.

Particles in the air do the same. The more are the light has to pass through the more gets scattered; sunsets are redder than midday sun. The more particles in the air the more light is scattered; sunsets are more spectacular in polluted air!