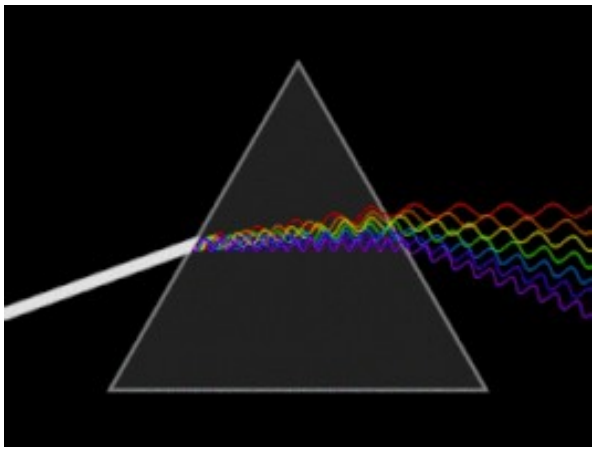
(main sources: https://www.pitara.com/science-for-kids/5ws-and-h/the-colours-of-light/ & http://www.scienceforkidsclub.com/rainbow-facts.html)

A beam of light seems to have **no colour**.



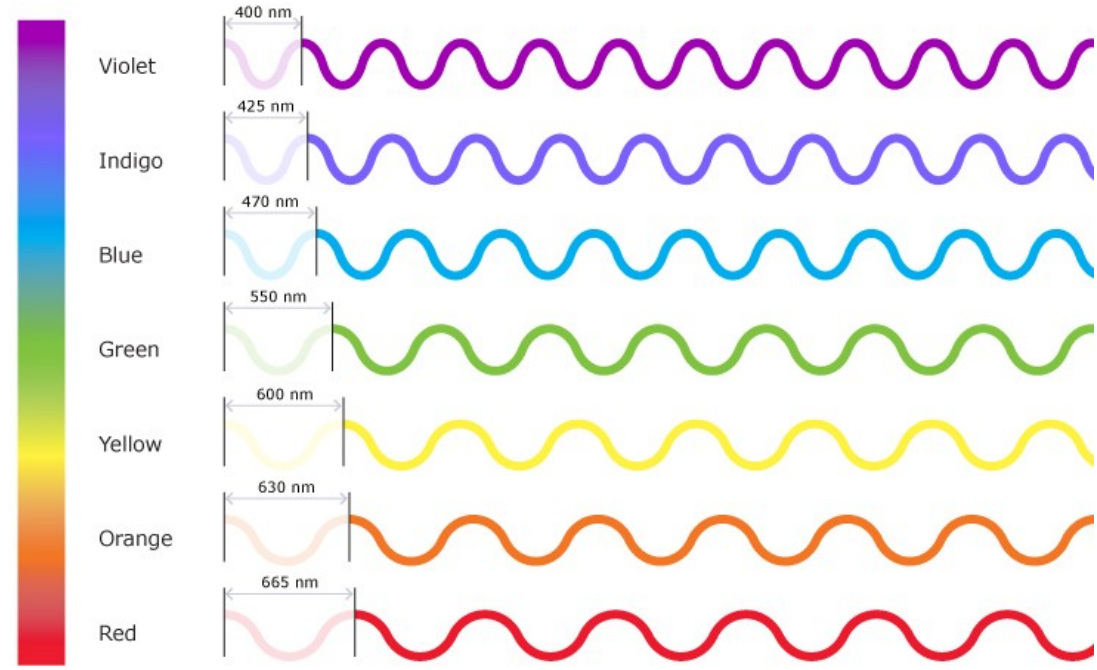
Actually, it is made up of **coloured rays**.

Usually, these coloured rays combine to form the **white light**.

But it is possible to see the different colours at certain times.

For instance, when it rains and the sun's rays pass through raindrops. Since the raindrop has many sides or surfaces, the rays **split up** into a fanshape of different colours. And we see the rainbow:

Violet, indigo, blue, green, yellow, orange and red.



Light moves through space as waves. These waves have a **frequency** and a **wavelength**. The number of ups (**crest**) and downs (**trough**) /troφ/ a wave touches in one second is called the frequency. The distance between one crest and another or one trough and another is called its wavelength.

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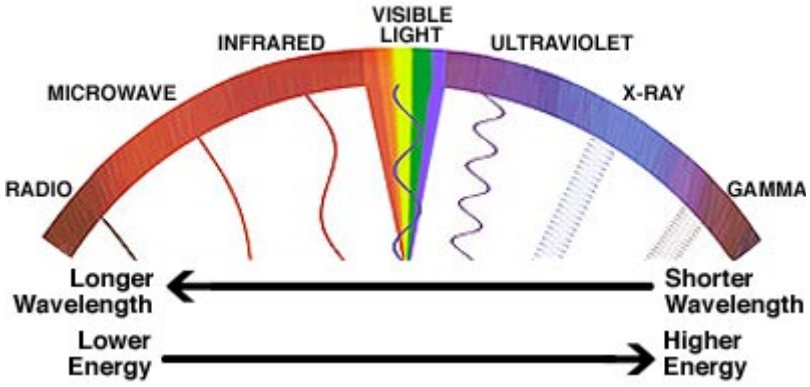
The coloured light rays have different wavelengths, which form an array, called the **light spectrum**. Violet and red form the two extremes of the spectrum. Any light, whose wavelength is shorter than violet or longer than that of red cannot be seen by us.



There are two more reasons why see a particular colour and not another:
1) It depends on the material the light falls on.
2) Another reason is how the eye sees the colour.

Is this tomato red?

A ripe tomato is bright red because its skin reflects the red light in sunlight, and absorbs all other colours.

By itself, **the tomato is not red** !!

In the same way, some objects appear to change colour if they are tilted towards or away from the light. And if the light source is changed, an object's colour may alter. The changing colours of the sea provide the best example.

When light strikes water, most of it is reflected. Some of it goes under the surface.

The sea gets its colour when light is scattered from beneath the surface.

Also, different wavelengths of light penetrate to different depths.

Thus, if the water is clear, the red and yellow wavelengths of light are absorbed, leaving only blue-green light to be scattered back. That is why clear seas appear bluer.

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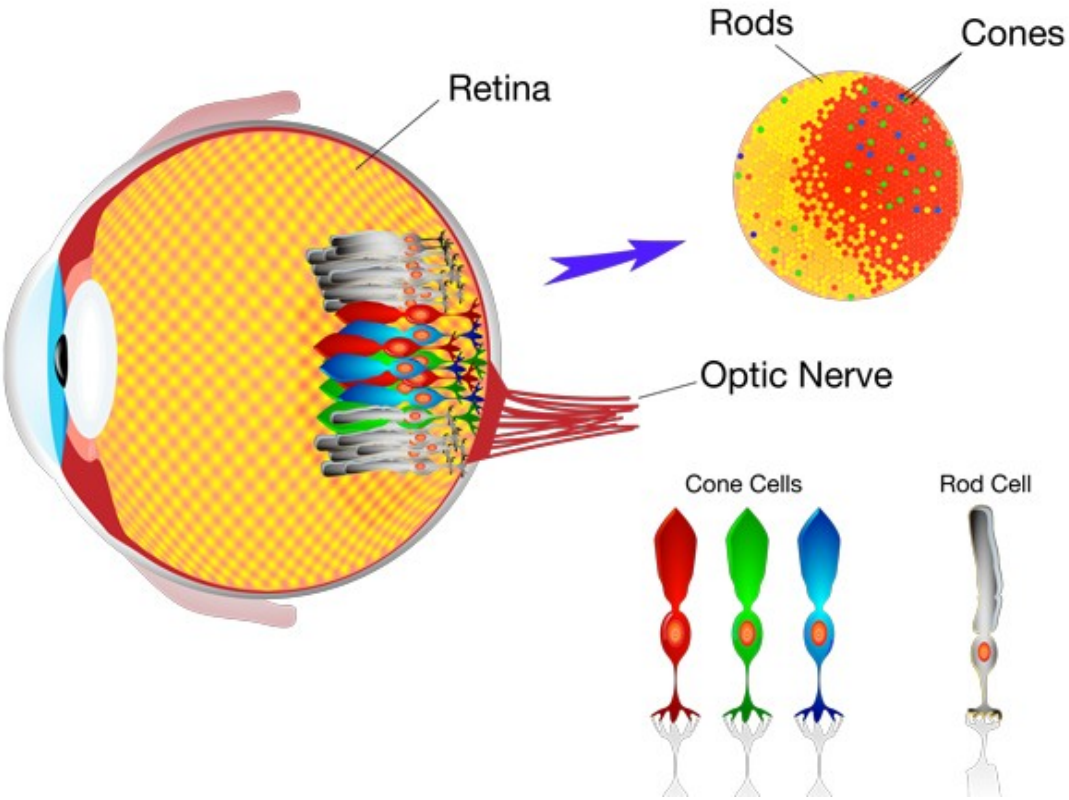
The dark blue of the Mediterranean Sea comes from the sky and its reflection in the water. On cloudy days the same sea could appear to be grey.



Also cells that are sensitive to light are distributed differently in the retina of the eye in different people. That is why people often fight about the colour of the sea or flower or car that they are seeing. They should just make “light” of their diferences.