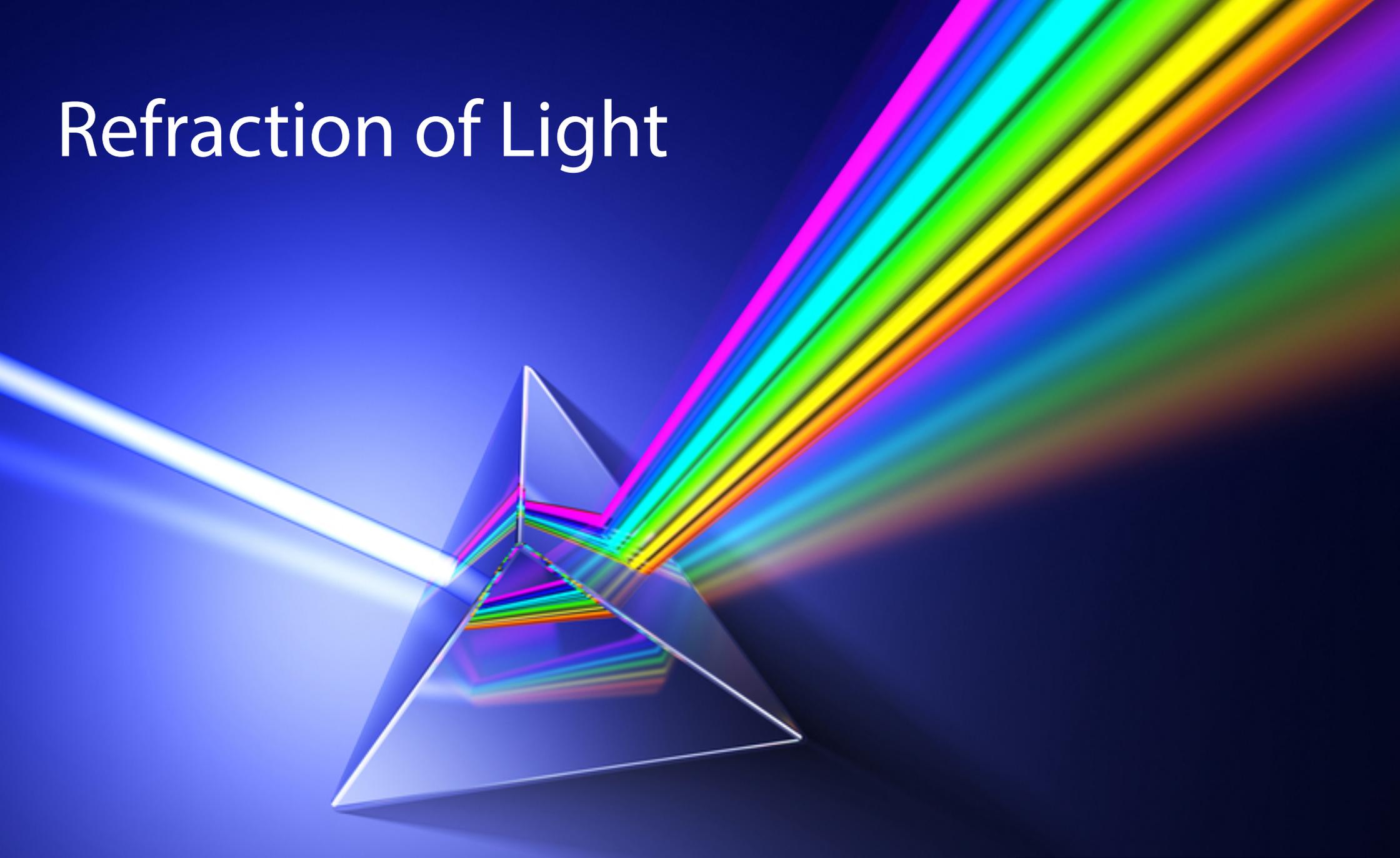
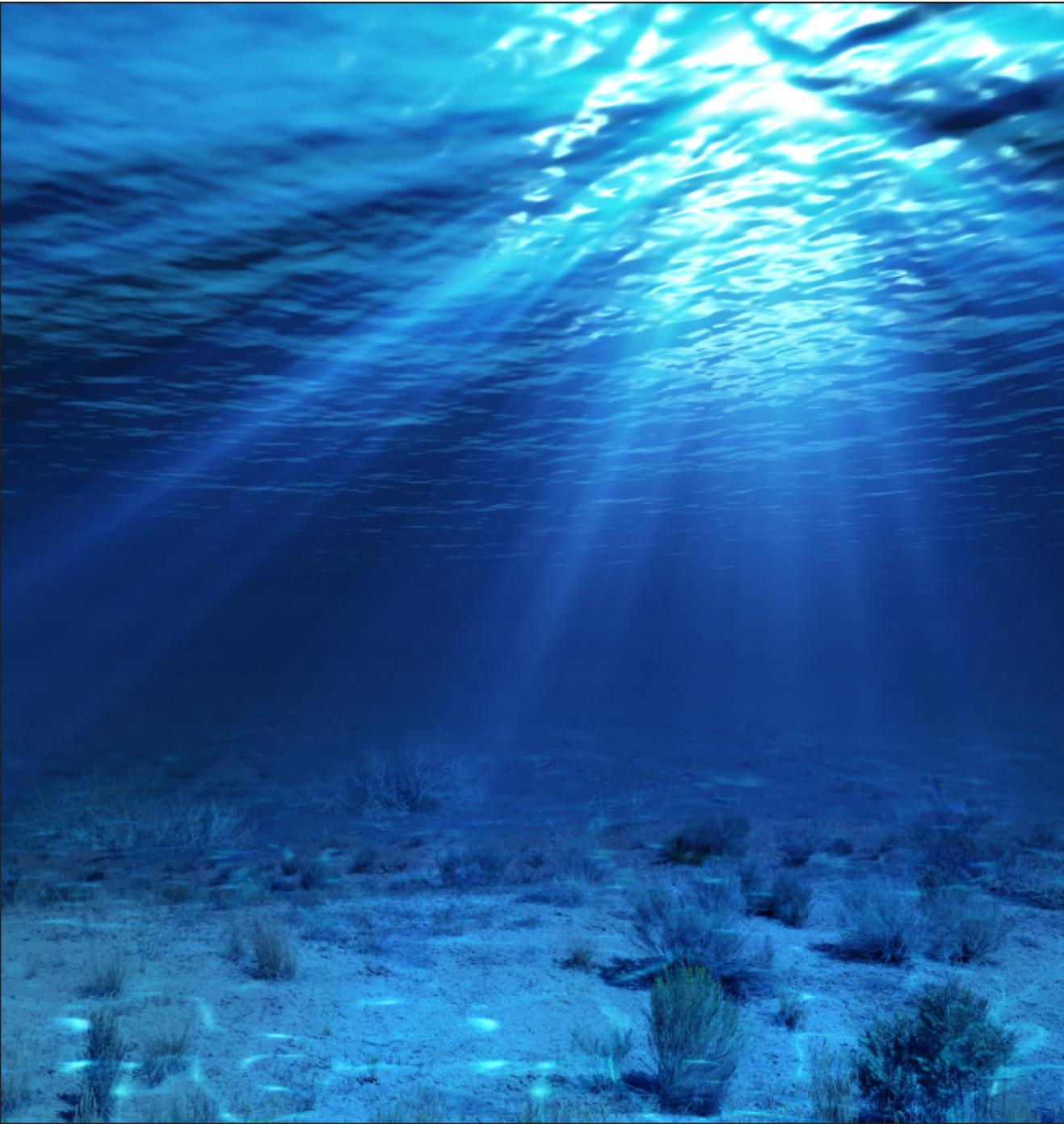


# Refraction of Light



# Can Light Travel Through Objects?

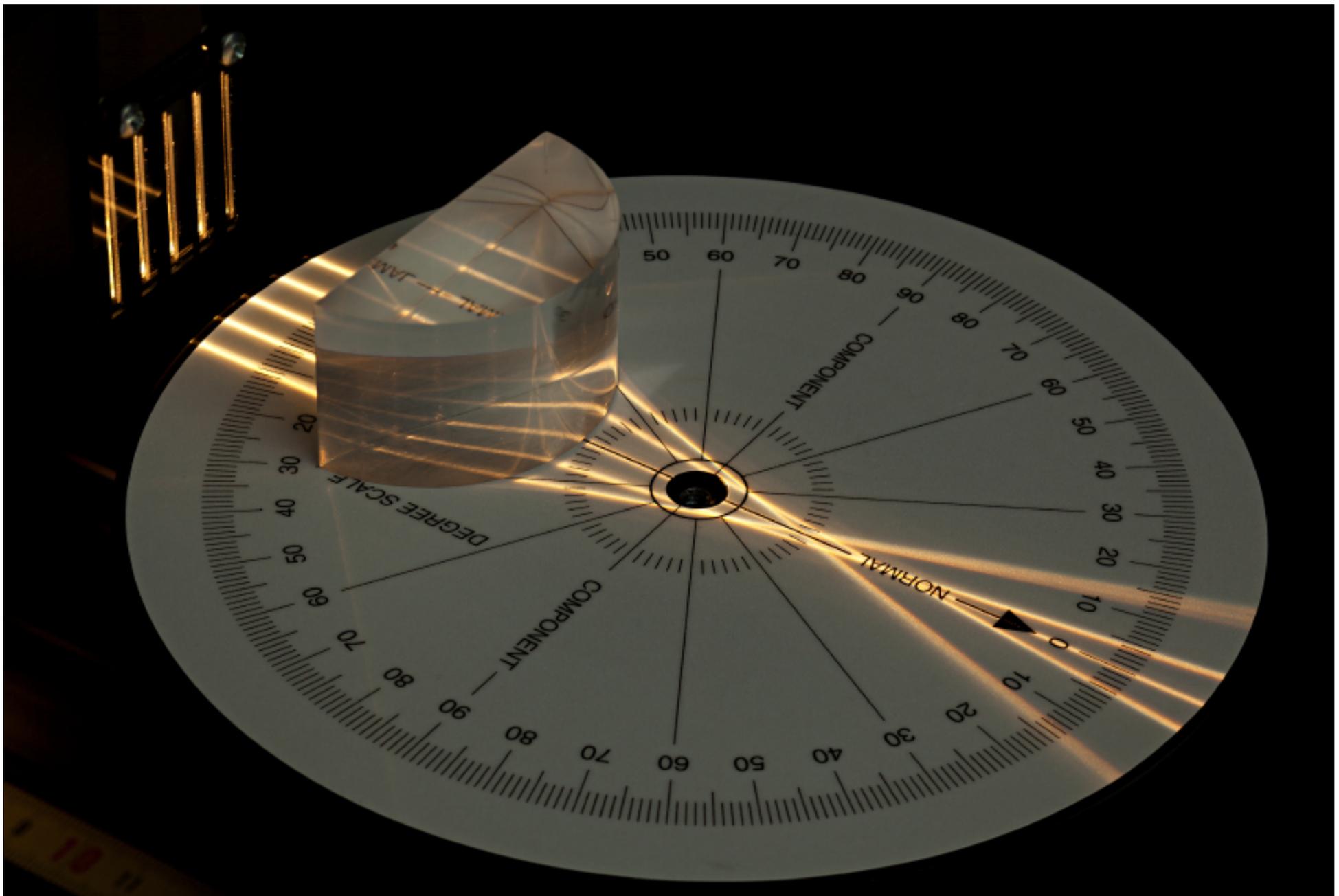


Light can travel through transparent and translucent objects. It may be reflected from or absorbed by opaque objects.

Light can travel through water and glass for example. They are see-through. We say these are ***transparent***.

Some objects, such as frosted glass windows, will only allow some light through. We say these are ***translucent***.

A brick wall doesn't allow any light through. We say this object is ***opaque***. Light can be absorbed or it can be reflected from opaque surfaces.



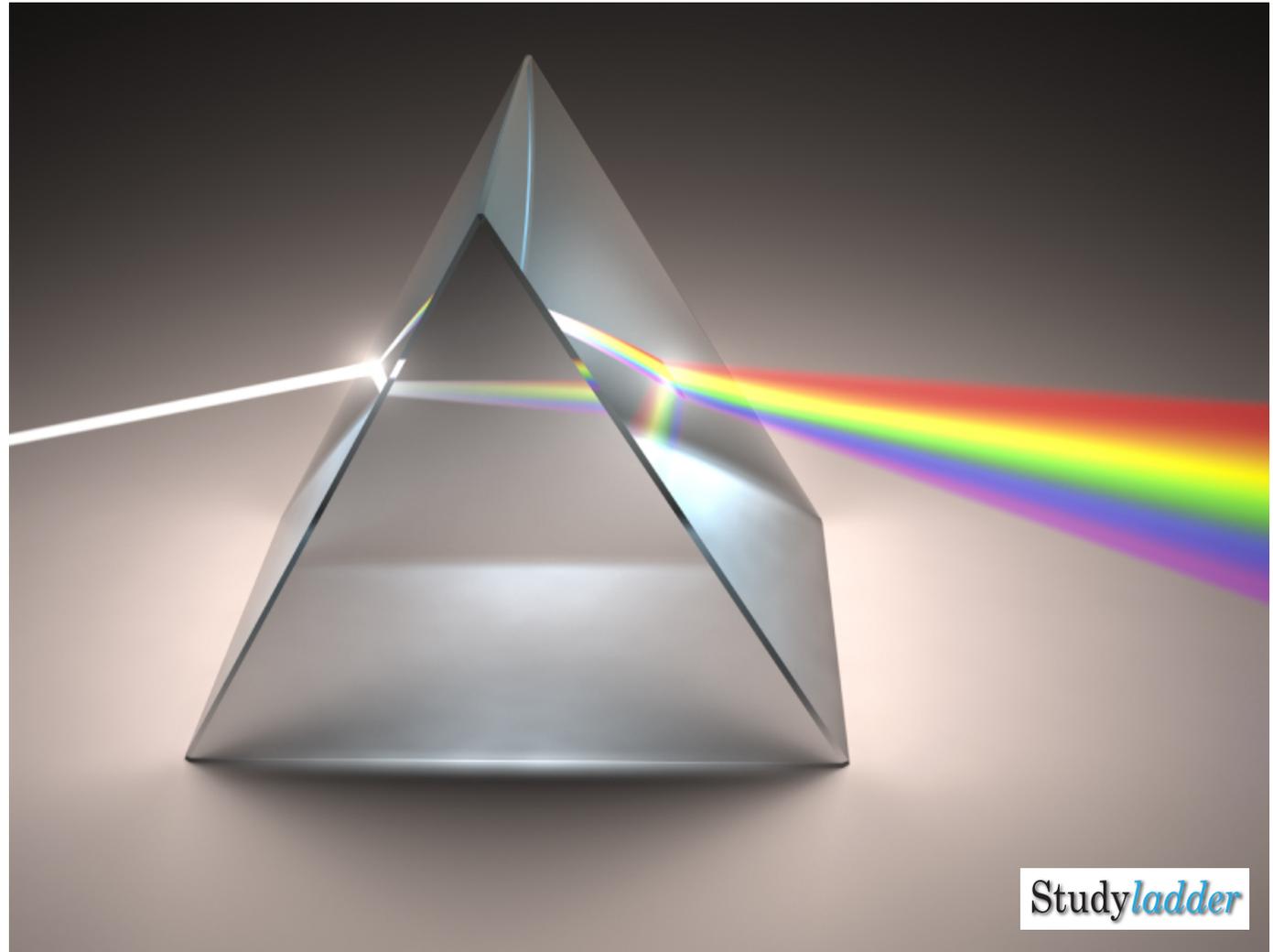
When light shines through a translucent object like this convex lens, the light passes through the object but the path of the light is altered (bent). This change of path is called refraction.

# Refraction can Create a Spectrum

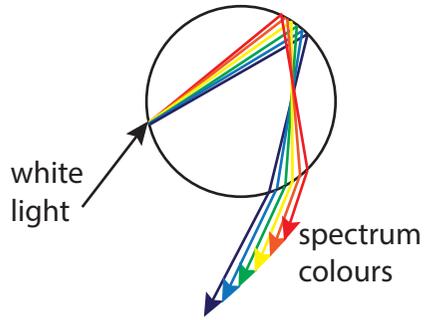


Isaac Newton experimented with light. He placed a glass prism in the path of some sunlight coming through a window in his house. The light passed through the prism, splitting into the colours of the spectrum on the opposite wall.

White light is actually made up of all the colours of the rainbow. The different colours travel at different speeds because they have slightly different wavelengths. This means that they are refracted at different angles. When they exit the prism bands of colour are displayed at different angles.



# RAINBOW



A rainbow forms when white light enters droplets of rain. The white light splits into the colours of the spectrum and is refracted at different angles for each colour. (This is because they are different wavelengths.)

When the light reaches the other side it is reflected off the back of the raindrop. When the light leaves the front of the water droplet it is refracted once again, resulting in bands of colour being seen by your eye.

You can only see a rainbow when the sun is behind you and there are air-borne droplets of moisture in the distance in front of you.

