A blue parallelogram and a light green parallelogram are positioned in the upper-left corner of the slide. The blue shape is partially behind the green one. Both shapes are tilted diagonally. The background of the slide is dark blue with several lighter blue diagonal stripes running from the bottom-left towards the top-right.

How do we see sun rise
before it happens?

By Alvin A.

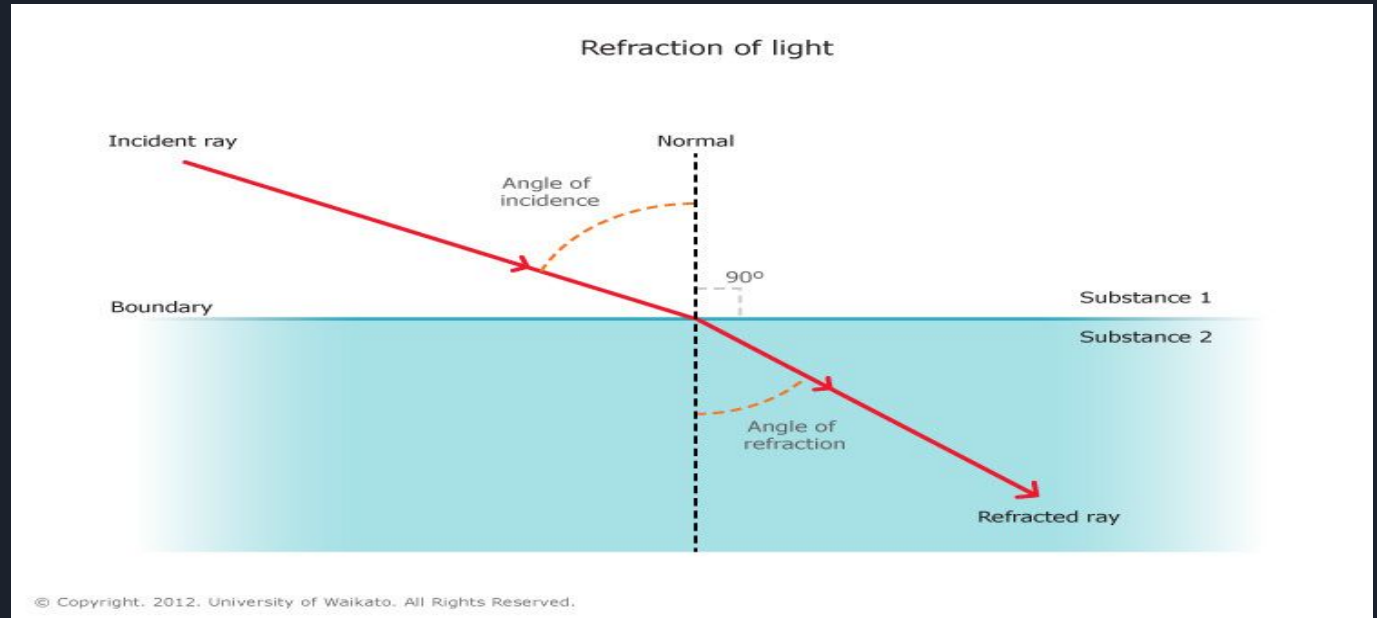


We see the sunrise before it actually rises because of a natural phenomenon known as refraction.

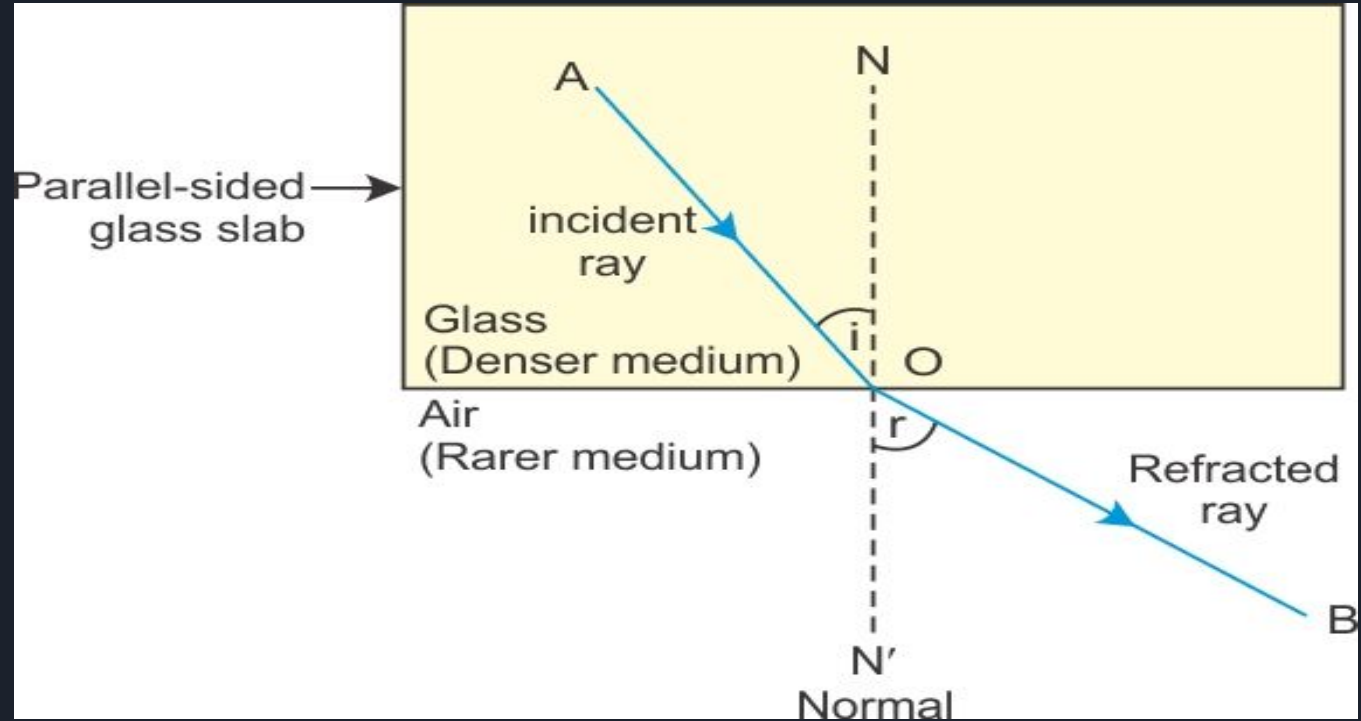
Usually light always goes on a straight line, but an interesting phenomenon happens when light goes from one medium to another, it causes the light to change direction. We can imagine a line perpendicular to the surface of the point where the light hits, this we can call normal as the normal. When light travels from a lighter medium to a denser medium the light bend towards the normal, if the light is traveling from a denser medium to a lighter one it will bend away from the normal

Here is a diagram

Here the light is traveling from a lighter medium to a denser medium

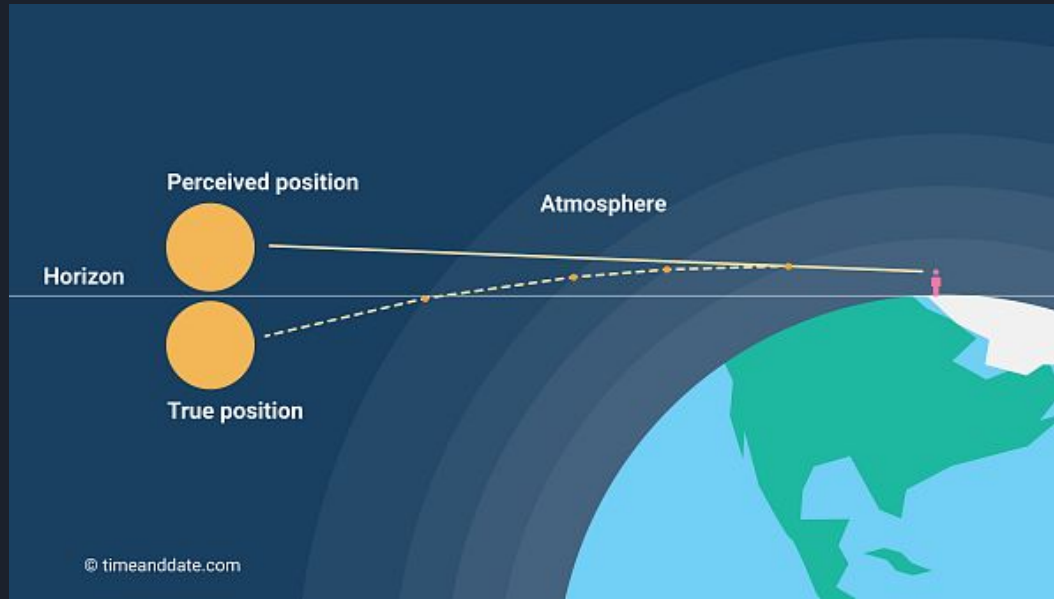



Here the light is traveling from denser medium to a lighter one



So why do we see the sunrise or sunset before it actually happens?

When the light reaches the earth's atmosphere, the light will be traveling from lighter to a denser medium, this causes the light to bend





The density of atmosphere is not evenly distributed, it has many layers, the nearer to the surface of the earth the higher the density, this causes the earth's atmosphere to have many points of refraction



Bibliography

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