To know more about ... the solar halo !

Do you see this strange circle of light around the sun . . . ?

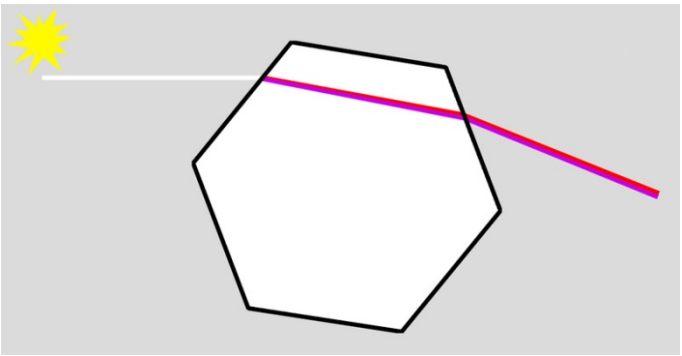
Its edge is slightly colored red inside and blue on the outside, though is more difficult to see.

It can appear only briefly or last for hours ...

What is it ? ? ?

Very high in the sky (about 10 km altitude), there are sometimes thin clouds called "cirrus"... which, when the temperature falls between -5°C and -25°C, are composed of ice crystals having a hexagonal shape (= 6 sides)

! So thin this cirrus that sometimes we do not even see them !



! ! ! Observe the drawing of the ice crystal ! ! !

Look at the path of the light passing through, when the sun shines through the clouds !

What do you notice ?

Because of their hexagonal shape (= 6 sides),
the ice crystals found in these high-altitude clouds
deviate the sunlight

A beautiful " HALO " (= circle of light) of a large diameter is then formed, around the sun ! ! !

At night, such a "HALO" may be seen around the moon ! ! !
It is then called a "lunar halo".

Where and when can we see a solar halo ?

This phenomenon of light can be seen everywhere and in all seasons as soon as the ice crystals form in the high clouds . . .

. . . but it is seen much more frequently in the polar regions ! ! !
The 3 pictures of the "halo" were taken in March in Ilulissat, Greenland.

In your everyday life, you can see much more often another phenomenon where sunlight is deviated and split in different colors ...

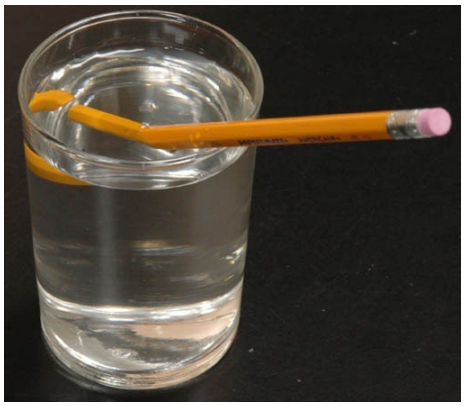
The rain droplets also deviate the sunlight . . .
but by breaking it down to form a rainbow in the sky
violet, indigo, blue, green, yellow, orange and red !

One can sometimes observe a second dimmer arc with the colors inverted . . .

Between these 2 arcs, the sky is usually darker ! ! !

Do an experiment to understand the deflection of light ! ! !

Put a pencil in a glass of water ... Hold the glass up to your eyes and look through it.
The pencil seems"broken" on the water surface.
This apparent deflection is due to the same phenomenon that deflects the sun's rays in the circle of the "halo" . It is called refraction.



We see the light coming from another direction than the true source, such as the pencil in this experiment.
Nature shows us mirages ... so beautiful !