Science

Year 5

Notes on

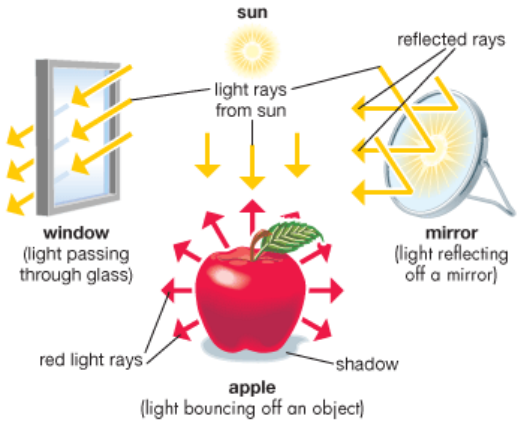
Light Reflection

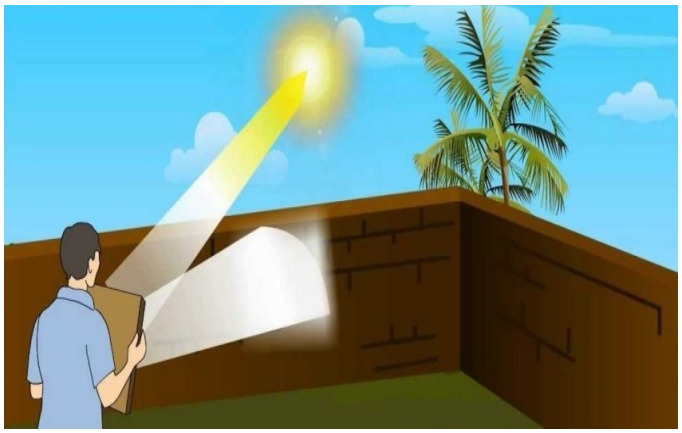
And

Mirrors

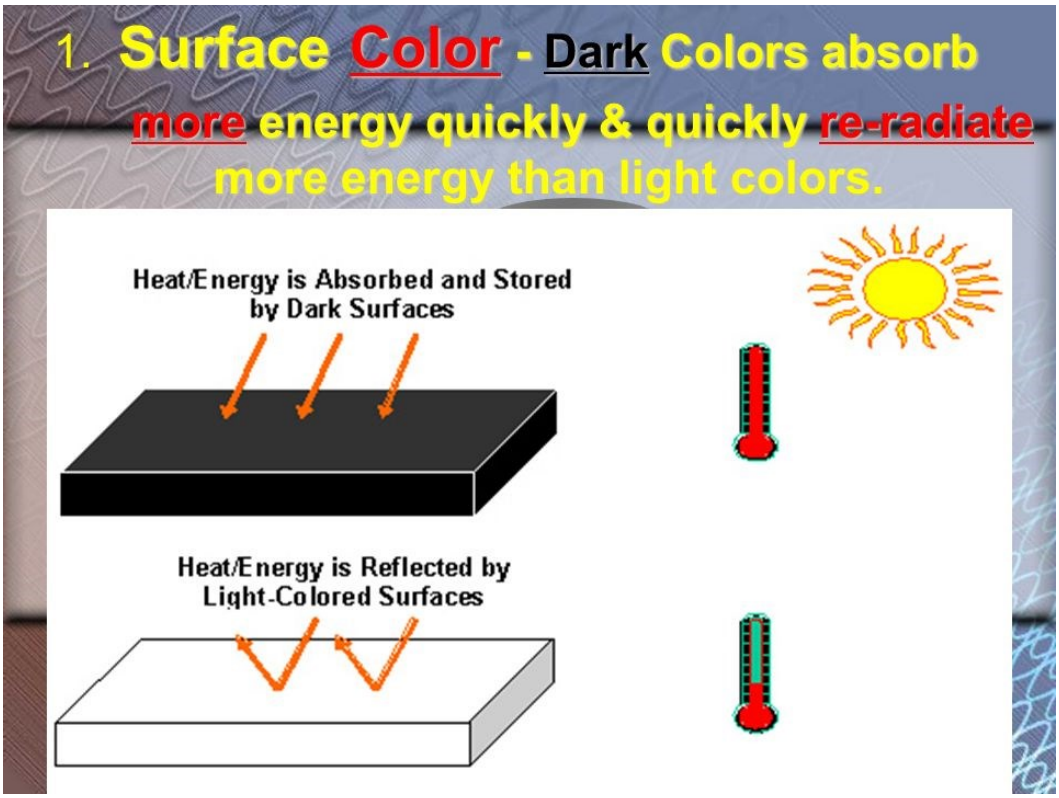
Reflection of Light

Reflection: When light hits an object some of it bounces (reflects) from its surface.



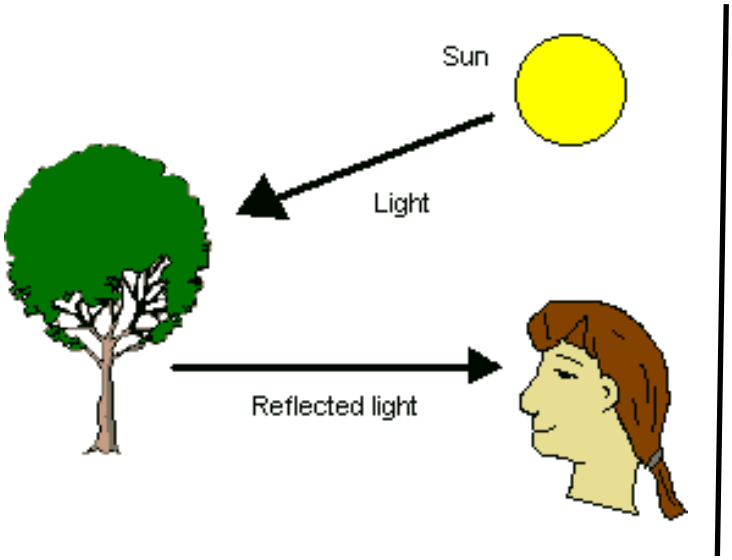


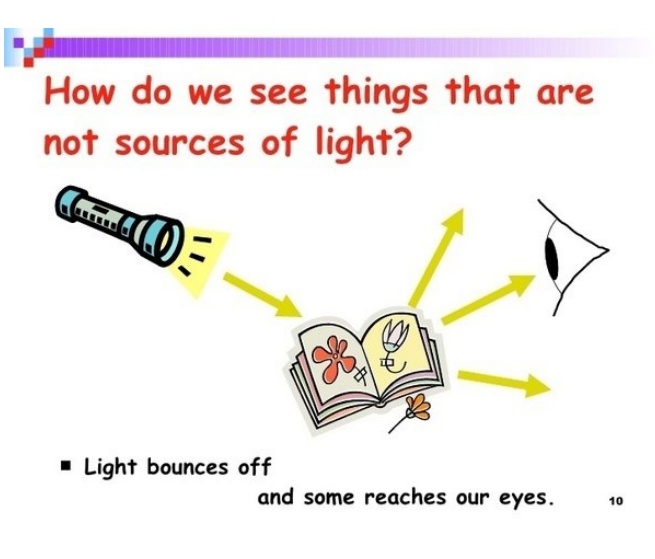
Dark and Light Colours: Dark colours such as black or dark blue reflect back little light (they absorb light). It is the reason they become hotter in sunlight. Light colors and shiny surfaces such as white and mirrors reflect more light and stay cooler in sunlight.



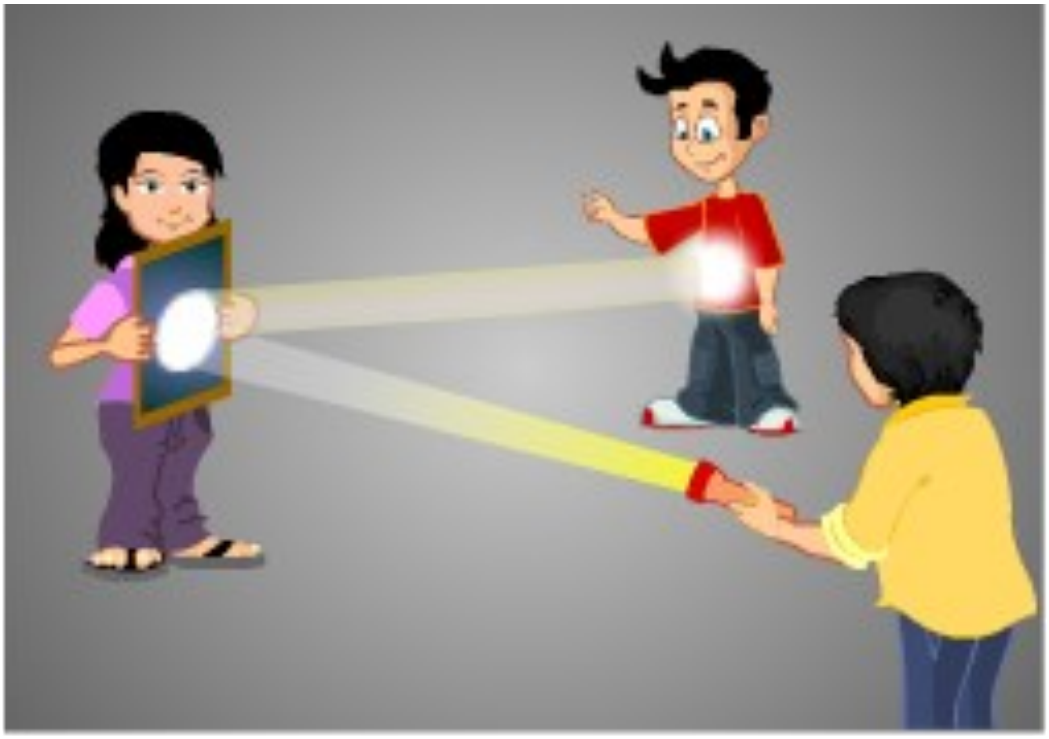
Video 1: Click on the grey button to watch a video about how hot a white and a black cars become after some time exposed to sunlight.

How you see: To see objects, light bounces from the object and enters your eyes. Since the light is coming from that object you can see it.





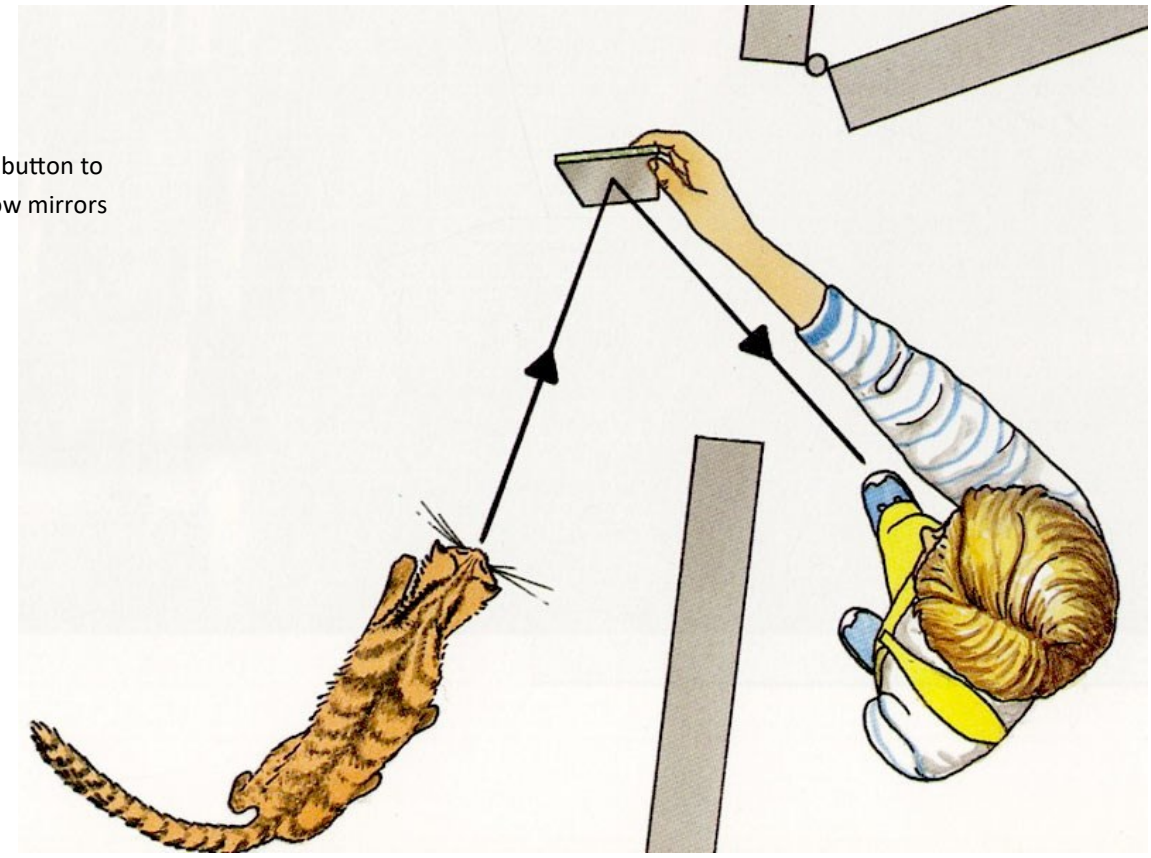
Mirrors: Mirrors are very reflective and can bounce almost all light hitting them. We can use mirrors to see around corners and obstacles by bouncing light from the mirror.



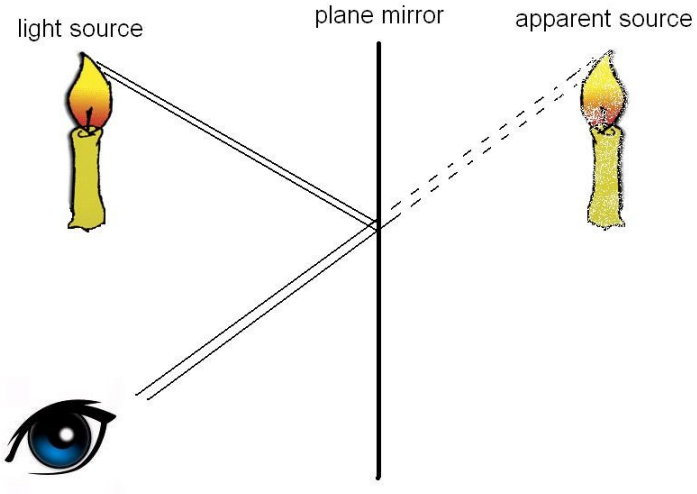
A mirror reflects a beam of light

Video 2: Click on the green button to see a video about light reflection and how we can see.

Video 3: Click purple button to watch video about how mirrors work.

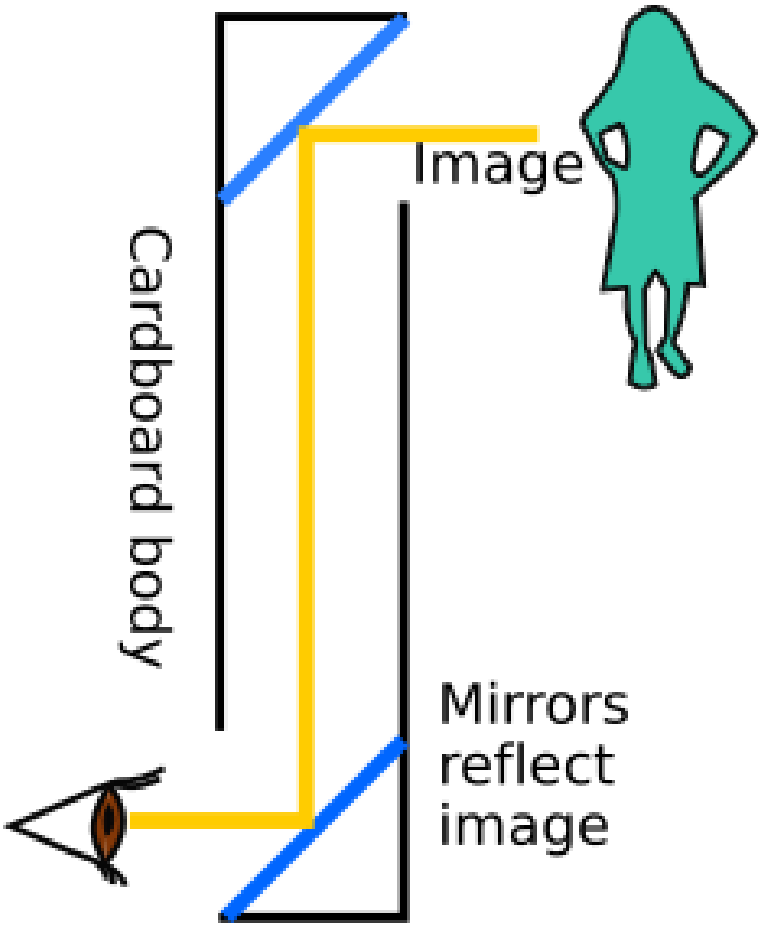


Seeing around corners: This person is using a mirror to see the cat behind the wall. Light bounces on the cat, then on the mirror and the person's eyes. Since the light is coming from the cat the person sees the cat. Without the mirror, the person can't see the cat as the light bouncing from the cat can't get in the person's eyes.



Light from the candle bounces on the mirror to the eyes. The eyes and brain think that light is coming from the mirror and sees an image in the mirror.

The Periscope: We can bounce light from multiple mirrors to see around objects. The light can be reflected (bounced) on multiple mirrors until it gets to the eyes. In a periscope light is reflected on two opposite angled mirrors. Using this setup it is possible to see what is above your eye level. Submarines use periscopes to see above sea level.



Periscope above water level.

Video 4: Click on the orange button to watch how a periscope works.

Video 5: Click on yellow button to watch a video about the view you can see from an actual submarine periscope situated in a museum.

Video 6: Click on brown button to watch a video about how to make a periscope. If you want to make one, ask an adult to help you.

A Submarine captain looking through the periscope .

Use of mirrors in streets and shops: Mirrors are used in streets and shops to see around blind spots. Most of these mirrors are curved or spherical (shape of a sphere) to get a wider view.

Video 7: Click on the pink button to watch a video about how in Japan use a lot of mirrors in their streets.

Click on the hexagons for further activities.

To Investigate

Activity to investigate light absorption of objects around you.

To Make

Details how to make a “stick Mirror”.

To Make

Other plans how to make a periscope.

Need Adult help

To Investigate

Investigate how light reflects from different mirrors

If you can’t find mirrors when making the periscope, use an old bad CD cut in halves as a rudimentary mirror instead. Ask an adult to cut it.
Note: CDs are better than DVDs for this activity as the latter have a purplish tint.