

Parallel mirrors

Can you see the front and back of an object at the same time?



Place one of the objects between the mirrors and observe its reflections.

Move the right mirror slightly with the knob. What do you see now?

The mirrors are set up opposite and parallel to each other. An object placed between the mirrors creates a reflection which in turn creates another reflection behind the opposite mirror. You can see alternately the front and the back of the object. However, this is only possible with non-symmetrical objects such as e.g. a dice.

When you tilt the right-hand mirror, the row of reflections tilts to the opposite direction. If you tilt the mirror down a little, the row of reflections bends upwards (and vice versa).

The individual reflections become smaller and smaller because with each reflection the light has to travel farther and farther. Additionally, with each reflection the light has to travel twice through the layer of glass in the mirror. As glass is never fully transparent, some light is absorbed each time, and consequently the reflections become increasingly dimmer.