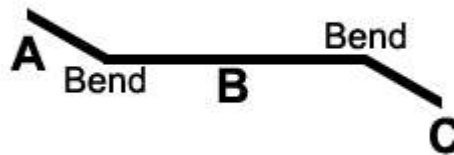
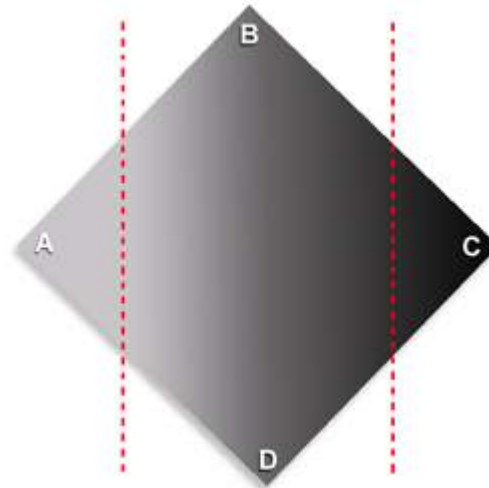


## The Color Mixing Turbine – Overlapping Color in Time

Due to a phenomenon known as persistence of vision, our retina retains an image for a short time after the source of light has come and gone. Using persistence of vision, it is possible to combine colors by presenting them to the eye in rapid succession. If for example, a flash of red light impinges on the retina, the sensitive cones that are activated by the light continue sending signals to the brain for a fraction of a second. If a source of green light strikes the retina within this time, the brain will perceive yellow, the additive combination of red and green.

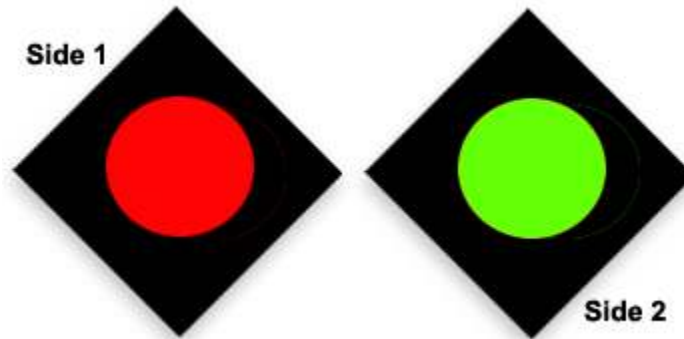
The color mixing turbine provides a simple yet elegant way of demonstrating the use of persistence of vision to achieve additive color mixing.

The following steps will guide you through the construction and use of the turbine.



Bend two corners of one of the black cardboard squares as shown in the figure above.

Attach a green sticker to one side of the card and a red sticker to the other. Make certain that the two stickers have overlapping areas.



Gently hold the card by corners B and D using two fingers. By blowing on the concave blade, the cardboard can be made to spin. The alternating colors act as flashing red and green lights, the combination of which produces the sensation of yellow.