

Name:

Date:

SCIENCE > ENERGY > COLOR

"BECAUSE" CHART

Objects reflect and absorb electromagnetic waves, which our eyes interpret as color. Explain why the following objects appear certain colors.

**A PIECE OF PAPER
APPEARS WHITE****BECAUSE**

all the colors of
white light are
being reflected

**A PAINTED WALL
APPEARS YELLOW****BECAUSE**

pigment in the
paint absorbs all
the colors of white
light except yellow
light which is reflected

**A LEATHER JACKET
APPEARS BLACK****BECAUSE**

all the colors of
white light are being
absorbed. No colors
of light are reflected
so we see black (no light)

**A SPORTS CAR
APPEARS RED****BECAUSE**

all the colors of white
light are being absorbed
by the pigment except
red which is reflected
Some see the car
as red

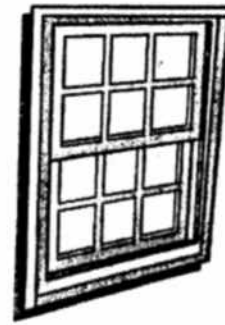
Describe what happens to light that strikes each of these objects.



Black Book



Mirror



Window

Light behaves differently depending on the object it strikes. Light can be transmitted, absorbed or reflected. The book is opaque. So when light strikes the book, it cannot pass through it. Since the book is black, all the light that strikes it will be absorbed by the book. None of the light will be transmitted or reflected. The mirror is also opaque, but it is smooth and shiny so all the light that strikes it will be reflected. For example, light reflecting from a person's face standing in front of the mirror is reflected back into the person's eyes. As a result the person sees his reflection. Lastly, the glass panes of the window are transparent, so when light strikes the window, the light transmits through the glass. One is able to see the images clearly on the other side of the window. So light will transmit through transparent objects and will be absorbed or reflected by opaque objects. The colors of light that an object reflects determines the color we see. If an object appears black