



by jok church

Dear Beakman,
 How do my transition glasses work?
 Hanter Cortese
 Middletown, New Jersey

Beakman or Jax
 1130 Walnut Street
 Kansas City, MO 64106
 Questions, name & address

Chemical reactions sometimes need energy to happen. Sometimes that energy is just mixing stuff up. Other times it's heat.

With photochromic lenses, the energy comes from the sun, which shines lots of stuff other than visible light to Earth. UV is not visible light, but it still comes from the sun.



Beakman's World on
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Dear Hanter,
 Your eyeglasses store calls them *transition* glasses, but science guys call them *photochromic* (FO-to-KRO-mic). Stuff changing colors when hit by light was first written about in the 1880s.

Your eyeglasses probably have plastic lenses that have been dipped into photochromic chemicals that actually soak into the surface of the lenses. They are sometimes called *photo-switches*.

The chemicals work when their molecules change their shape if a certain kind of light hits them.

Beakman
 Beakman Place

: Do : Notice :

On a bright, sunny day, hold your glasses lenses-up-flat. Lay a business card on top of your glasses so it covers only a part of the lenses. Do this inside, with your eyeglasses as clear as they get.

Wait like 5 minutes with the card blocking any light. Lift off the card

and check for color change.

Next, put the card back on top the lenses and go out into the bright sunshine. In 5 minutes or so, lift the card and quickly check for color change.

With most transition glasses there won't be a color change inside your

house. Outside, your lenses get dark.

Outside is where there is a kind of light called UV. Most homes don't have UV inside and even car windows can block some UV. UV is the stuff that changes the shape of the molecules in photo-switches.