



Dear Beakman,
How does one-way glass work?

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Questions, name & address

Dear Michelle,
The one-way glass most of us see is in mirrored sunglasses. They work just like one-way windows you might also see on the way-many police and crime lab programs on TV these days.
A one-way window works by bouncing back most of the light while letting just a bit of it travel through the glass to your eyes on the other side.

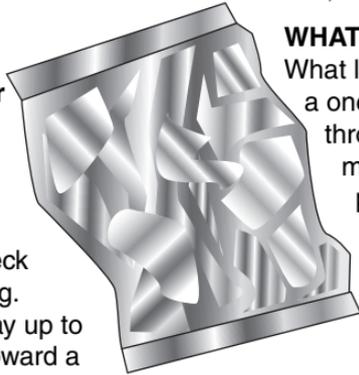
Beakman
Beakman Place

Experiment #1

WHAT YOU NEED: Silvery Mylar potato chip or snack/junk food bag

WHAT TO DO:

After you're done with the stuff inside, hold the bag open and check out the mirror-like inside of the bag. Then hold the open bag all the way up to your eyes and look into the bag toward a sunny view.



WHAT IS GOING ON:

What looked like a mirrored lining is really a one-way film. You were able to see through the bag. The film the bag is made from is so thin that light can pass right through. But most of the light is bounced back into your eyes. When you darkened the light hitting the mirrored side of the bag, you saw the tiny bit of light that can travel through the bag.

SO WHAT:

One-way glass has a thin film of metal on one side and works much like your chip bag.
Regular mirrors have a *thick* film of metal. The thin metal on one-way glass lets some light travel right through.
Just like your bag, one-way glass will seem silvered only if the side you're on is brightly lighted.

Experiment #2



WHAT YOU NEED:

Screened window near an outside light - night

WHAT TO DO:

From inside, look out the window. Do it with the room's lights on and off, and also with the outside light on and off.

Go outside and repeat but look in through the screen – again with the different lights on and off.

SO WHAT:

If you think of the wire in the screen as the thin silvering on one-way glass, you get the idea. When you look through the screen from the side with lights on, you can see the wire in the screen. When looking through the screen from a dark side to a bright side, you can't see the wires.

