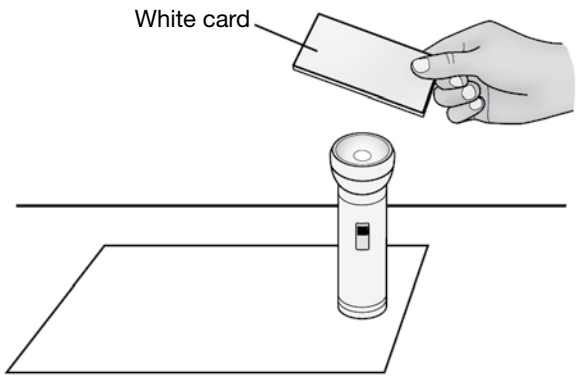
Experiment #2: How does light interact with non-shiny white and black surfaces?

The room should be darkened for the first four steps of this experiment.

STEP 1: Turn on the flashlight and stand it upright at one end of the paper.

STEP 2: Hold the white card as shown in the picture, so the flashlight beam strikes the card. Move the card in and out of the beam of light and observe what happens on the sheet of paper.



Describe the illumination on the paper: is the entire paper uniformly illuminated, or is there a circular spot of light on the paper?

STEP 3: Tilt the white card in different directions, but make sure the flashlight beam still strikes it. Observe what happens on the paper.

Does the illumination on the paper change significantly when you tilt the white card in different directions?

How are your observations with the white card ***different*** from your observations with the mirror? (If necessary, repeat your observations from Experiment #1 with the mirror again.)

When light strikes a shiny surface (mirror), you inferred that the light reflected from the surface in a particular direction. When light strikes a non-shiny surface (like the paper), does the light also seem to reflect from the surface in one particular direction, or does it seem to reflect in many different directions?