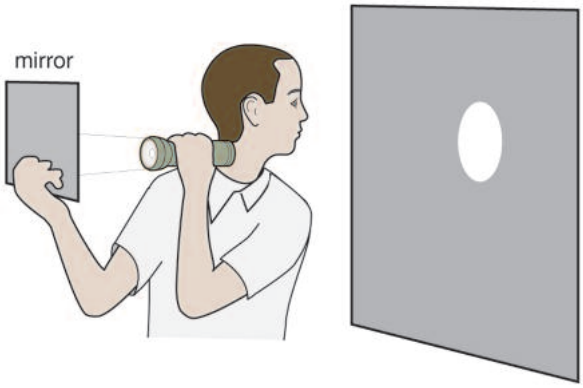
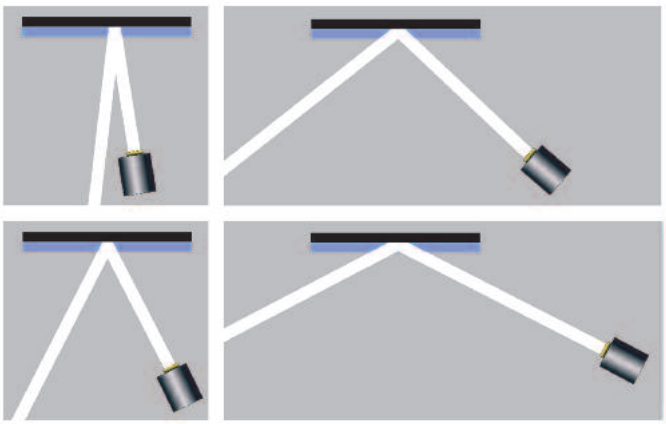
Next, your teacher will aim the beam at a mirror and reflect the light onto the screen. Observe the pattern of illumination on the screen. Then your teacher will tilt the mirror. Observe how the illumination changes on the screen, if at all.



3. When the mirror reflects the light beam from the flashlight onto the screen, is the entire screen uniformly illuminated, or is the illumination mainly concentrated in a small area on the screen?

4. When the mirror was tilted, what happened to the illumination on the screen? Does this observation suggest that when light reflects from a mirror, the reflected light goes in all directions away from the mirror or mainly in a particular direction away from the mirror?

Your teacher will have a brief discussion about the answers to these questions.

In order to know how light reflects from a mirror, you need to know if there is a relationship between the direction that the light beam strikes the mirror and the direction that the light beam reflects from the mirror. To gather data, your teacher will use a computer simulator. Below are four snapshots from the simulator. Each picture shows a projector shining a light beam so it strikes a mirror at a different angle (the mirror surface is black in these pictures).

5. What seems to be the relationship between the angle at which the light strikes the mirror and the angle at which the light reflects from the mirror?