

REFLECTION, DIFFRACTION, REFRACTION

SECTION 16: CONVEX AND CONCAVE LENSES

REFRACT LIGHT



Westminster College

PROCEDURE:

1. Cover two erasers with chalk dust. If erasers are not available, use a scissors to scrape chalk onto a sheet of paper.
2. Tape a sheet of white paper to the wall for a screen.
3. Turn off the lights. This activity needs to be done in a darkened room.
4. Have your partner hold the flashlight and point the light beam at your paper screen. Stand at least (1.5M) 5ft. from the screen. (see illustration)
5. Hold the convex lens in front of the flashlight beam. Move the lens closer to, then away from the flashlight. Observe the light beam as it hits the screen. Describe what happens as the convex lens focuses the light beam.
6. Hold the concave lens (the lens with the thick edges and thin center) in front of the light. Move the lens back and forth in the beam, can you find a point where the beam can be focuses? Describe what happens to the light as it passes through this lens.
7. Put aside both lenses. Sprinkle chalk dust into the beam of light from the flashlight. You will be able to see the light beam as it passes through this lens.
8. Hold the convex lens in front of the flashlight. Once the light is focused, sprinkle chalk dust into the light beam. You should be able to see the convex lens refract (bend) part of the light beam into a narrow, straight path. Sketch how the beam of light looks as it goes through convex lens.
9. Hold the concave lens in front of the flashlight. Sprinkle chalk dust into the light beam. You should be able to see the light diffuse (spread out) as it passes through the concave lens. Sketch how the beam of light looks as it goes through the concave lens.

