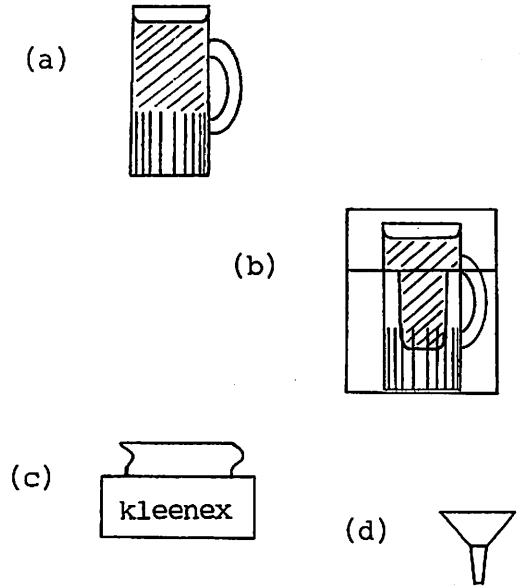


The 5" x 5" x 5 3/4" Acrylic Container

The "Blue Beer" Demo - a study of refraction, i.e., the "lens effect" via the index of refraction of water.

Procedure:

- (a) Pour the "blue beer" (water and food coloring) into a beer mug. Note the magnification of the "beer".
- (b) Place the mug with "beer" in the acrylic container. Add water up to about 2/3 the height of the "beer". Note the magnification of the "beer" below the waterline has been eliminated or canceled out. The mug appears as it would when seen empty in air.
- (c) To avoid waterspots, do not leave the water in the acrylic container long. Empty promptly and immediately wipe clean and dry with kleenex. To avoid scratches, do not rub the acrylic and store carefully.
- (d) With a 16 oz. coke bottle and a funnel, the "blue beer" can be stored and used over many times.



A Simple Lens Demo - studies of a water lens and an air lens via the relative indices of refraction of water and air.

Procedure:

- (a) Fill a 250 ml flask (long neck, round bottom, Sargent-Welch) with water. Look through the water lens at different distances.
- (b) Clamp the water lens to a stand and vertically pan a laser beam (on a lab jack?) through it, watching the resulting beam on a screen. Can you explain what is happening?
- (c) Clamp an empty 250 ml flask to a stand and place the flask in the acrylic container. Fill the container with water, covering the bulb.
- (d) As before, vertically pan the laser beam through it, watching the resulting beam on a screen. Can you explain what is happening this time?
- (e) To avoid waterspots, do not leave the water in the acrylic container long. Empty promptly & immediately wipe clean and dry with kleenex. To avoid scratches, do not rub the acrylic and store the container carefully.

