CONSERVATION OF VOLUME

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1. MATERIALS NEEDED:

2 clear acetate sheets, 8½ x 11 inches   Clear tape (Scotch tape or equivalent)
rice   pan or tray

2. SAFETY PRECAUTIONS:

There are no safety hazards in the experiment.

3. DISPOSAL:

There are no disposal hazards in this experiment.

4. PROCEDURE:

Roll one acetate sheet into a cylinder 8½ inches high. Butt the ends and tape them.

Roll a second acetate sheet into a cylinder 11 inches high. Butt he ends and tape them.

Place the 11-inch cylinder on a tray. Fill the cylinder with rice (uncooked). Tap lightly to settle the rice.

Place the 8½-inch cylinder around the tall cylinder. Ask the class, *What happens to the rice when the tall cylinder is removed?*.

Remove the tall cylinder.

5. EXPLANATION:

Calculate the volume of the two cylinders using the formula:

$$V = \pi r^2 h$$

where:

V = volume of cylinder
r = radius of the cylinder
h = height of the cylinder (either 8½ or 11 inches)

use the substitution:

$r = c/2\pi$ (c = circumference of the cylinder, either 8½ or 11 inches)