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## An Inexpensive Microscope Illuminator

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## An Inexpensive Microscope Illuminator

DONALD G. DELISLE<sup>1</sup>

*Abstract.* Adequate lighting is often a problem when using microscopes without integral illumination. The lamp described is constructed of inexpensive and easily obtainable parts. It provides ample light for four student microscopes at considerably less cost than most currently available units.

In laboratories equipped with microscopes lacking integral lighting, one often encounters the problem of providing adequate illumination. The microscope lamp described herein is suggested as a possible solution. A number of such units have been constructed and successfully used in the general biology laboratories at Simpson College.

The illuminator consists of a 5-inch fixture base (3-inch inside diameter), a 10-inch standard opal floorlamp globe, a 12-inch aluminum (pizza pie) pan, and the necessary wiring. Three steel angle braces are bolted to the under surface of the aluminum pan (Fig. 1). The free ends of the braces are provided with U-shaped grooves so that, when inverted, they fit directly over the rim of the globe. A distance of about  $\frac{3}{4}$  inch is maintained between the lid and the rim of the globe to insure proper ventilation. The lid is easily removable for replacement of bulbs or for cleaning the globe. The unit is secured to a small alum-



Figure 1. Component parts of the illuminator.

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inum platform (Figs. 1 and 2) so that it may be mounted directly over a four-way electrical outlet at the center of the laboratory table. The lamp may, however, be mounted on a fixed or a movable base. The unit is provided with a short length of cord and a male plug, but there is ample room in the fixture base for the addition of an on-off switch if this feature is desired.

The assembled illuminator stands about 12 inches high and, with a 100-watt frosted bulb, provides ample lighting for four student microscopes without producing objectionable glare. Optimum working distance for microscopes lacking substage condensers is about 2 to 2½ feet from the light source. Higher wattage bulbs may be used provided that the brackets are made slightly longer to accommodate the additional length.

The approximate prices for the various components are \$1.20 for the floor lamp globe, \$2.75 for the fixture base, \$1.10 for the aluminum pan, and 30 cents for the wiring and brackets — a total cost of \$5.35 per unit.

This illuminator is simple to assemble, has readily obtainable replacement parts, and provides light quality matching commercially available units that cost four or five times as much.

I wish to thank Dr. John E. Sass for suggestions which led to the development of this illuminator.



Figure 2. The assembled illuminator ready for use.