



## **NATIONAL MODEL 109, 109-L & 109-LED ELEMENTARY STUDENT MICROSCOPE WITH INCLINED VIEWING HEAD**

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*See illustration on page 2.*

Scaled down for younger students, but has standard microscope format most commonly used in U.S. schools. Simple to use, yet prepares students for easy transition to high school instruction. Precision optical system; achromatic, optical glass lenses. Rugged metal components engineered for years of reliable performance. Student proofing features minimize loss of parts and other student abuse. Recommended for instruction through grade 6.

### **OPTICAL SYSTEM**

- Widefield 10x eyepiece with revolving pointer.
- 45° inclined head for ease of viewing when seated.
- Head rotates 360°.
- Color coded 4x, 10x, 40xR objectives provide 40x, 100x and 400x magnification.
- Revolving triple nosepiece with positive click stops for easy, precise magnification changes.

### **ILLUMINATION**

- 109: 42mm plano-concave mirror. If light conditions are poor, it will necessary to incline the microscope on its inclination joint for the mirror to catch sufficient light.
- 109-L: 115v 15-watt sub-stage illuminator with on/off switch permanently factory mounted.
- 109-LED: Lighting equivalent to a 20-watt tungsten bulb, rechargeable NMH batteries, auto cutoff recharger, switch with rheostat control.

### **FOCUSING**

- Rack and pinion focusing.
- Slip clutch protects focusing mechanism from over-turning.
- Tension adjustment eliminates focus drift.
- Rack stop prevents damage to slides and lenses.
- Coarse and fine focus.

### **STAGE**

- 88mm x 82mm stage (3-1/2 in. x 3-1/4 in.) with locked-on, spring activated stage clips.
- Disc diaphragm.

### **FRAME**

- Rugged cast metal with inclination joint, gray enamel finish.
- Height 295mm (11-3/4 in.). Net wt. 1.7 kgs (3.7 lbs).

### **PACKING**

- Molded styrofoam container with instruction brochure and vinyl dustcover.
- Individual: Ship wt. 2.7 kgs (6 lbs), Dimensions 450x300x275mm (18x12x11 in.)
- Master carton pack 5 each: Ship wt. 11.8 kgs (26 lbs), Dimensions 775x275x375mm (31x11x15 in.)

### **WARRANTY**

- 5-year limited warranty, excluding bulb.

### **PARTS & ACCESSORIES**

800-101	Replacement bulb, 115v 15 watt, D.C. medium bayonet base.
800-101-220v	Replacement bulb, 220v 15 watt, D.C. medium bayonet base
800-001	Replacement LED Bulb
802-003	Auto cutoff recharger

*Note: To provide optimum quality at lowest cost, models in this series cannot be changed or upgraded.*



MODEL 109 w/LED

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NATIONAL MODEL 109-L

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