



**Handbook • Magnet Board Optics • No. 01151.02 •  
60 described Experiments**

**1 Propagation of light**

- OT 1.1 (11000)**  
Rectilinear propagation of light
- OT 1.2 (11001)**  
Shadow formation by a point light source
- OT 1.3 (11002)**  
Umbra and penumbra with two point light sources
- OT 1.4 (11003)**  
Umbra and penumbra with an extensive light source
- OT 1.5 (11004)**  
Length of shadows
- OT 1.6 (11005)**  
Solar and lunar eclipses with a point light source
- OT 1.7 (11006)**  
Solar and lunar eclipses with an extensive light source

**2 Mirrors**

- OT 2.1 (11007)**  
Reflection of light
- OT 2.2 (11008)**  
The law of reflection
- OT 2.3 (11009)**  
Formation of an image point by a plane mirror
- OT 2.4 (11010)**  
Image formation by a plane mirror
- OT 2.5 (11011)**  
Applications of reflection by plane mirrors
- OT 2.6 (11012)**  
Reflection of light by a concave mirror
- OT 2.7 (11013)**  
Properties of a concave mirror
- OT 2.8 (11014)**  
Real images with a concave mirror
- OT 2.9 (11015)**  
Law of imagery and magnification of a concave mirror
- OT 2.10 (11016)**  
Virtual images with a concave mirror
- OT 2.11 (11017)**  
Aberrations with a concave mirror
- OT 2.12 (11018)**  
Reflection of light by a convex mirror
- OT 2.13 (11019)**  
Properties of a convex mirror

**3 Refraction**

- OT 2.14 (11020)**  
Image formation by a convex mirror
- OT 2.15 (11021)**  
Law of imagery and magnification of a convex mirror
- OT 2.16 (11022)**  
Reflection of light by a parabolic mirror
- OT 3.1 (11023)**  
Refraction at the air-glass boundary
- OT 3.2 (11024)**  
Refraction at the air-water boundary

**Geometrical optics and theory of colours on the magnetic board**

The demonstration system presents the following advantages:

- simple handling and minimum preparation time through components with magnets
- clear length of beams through 50 W halogen lamp with magnet and large model objects
- clear and dust proof storage of all components in the device shaped tray
- detailed description of experiments with figures 60 experiments covering light propagation (7), mirror (16), diffraction (10), lenses (13), colours (6), eye (3), optical instruments (6)
- Both sides of board can be used for mechanics and optics
- Galvanised sheet steel board in aluminium profile frame
- Mechanics side: lacquered
- Optic side: white foil with lined grid

**This HANDBOOK can be purchased separately. It contains the experiments listed below. Please ask for a complete equipment list. Ref No 22701**



Light path through a reversing prism (OT 3.8)

**OT 3.3 (11025)**  
The law of refraction

**OT 3.4 (11026)**  
Total reflection at the glass-air boundary

**OT 3.5 (11027)**  
Total reflection at the water-air boundary

**OT 3.6 (11028)**  
Passage of light through a planoparallel glass plate

**OT 3.7 (11029)**  
Refraction by a prism

**OT 3.8 (11030)**  
Light path through a reversing prism

**OT 3.9 (11031)**  
Light path through a deflection prism

**OT 3.10 (11032)**  
Light transmission by total reflection

#### 4 Lenses

**OT 4.1 (11033)**  
Refraction of light by a convergent lens

**OT 4.2 (11034)**

Properties of a convergent lens

**OT 4.3 (11035)**  
Real images with a convergent lens

**OT 4.4 (11036)**  
Law of imagery and magnification of a convergent lens

**OT 4.5 (11037)**  
Virtual images with a convergent lens

**OT 4.6 (11038)**  
Refraction of light at a divergent lens

**OT 4.7 (11039)**  
Properties of a divergent lens

**OT 4.8 (11040)**  
Image formation by a divergent lens

**OT 4.9 (11041)**  
Law of imagery and magnification of a divergent lens

**OT 4.10 (11042)**  
Lens combination consisting of two convergent lenses

**OT 4.11 (11043)**  
Lens combination consisting of a convergent and a divergent lens

**OT 4.12 (11044)**  
Spherical aberration

**OT 4.13 (11045)**  
Chromatic aberration

#### 5 Colours

**OT 5.1 (11046)**  
Colour dispersion with a prism

**OT 5.2 (11047)**  
Non-dispersivity of spectral colours

**OT 5.3 (11048)**  
Reunification of spectral colours

**OT 5.4 (11049)**  
Complementary colours

**OT 5.5 (11050)**  
Additive colour mixing

**OT 5.6 (11051)**  
Subtractive colour mixing

#### 6 The human eye

**OT 6.1 (11052)**  
Structure and function of the human eye

**OT 6.2 (11053)**  
Short-sightedness and its correction

**OT 6.3 (11054)**  
Long-sightedness and its correction

#### 7 Optical equipment

**OT 7.1 (11055)**  
The magnifying glass

**OT 7.1 (11056)**  
The camera

**OT 7.3 (11057)**  
The astronomical telescope

**OT 7.4 (11058)**  
The Newtonian reflecting telescope

**OT 7.5 (11059)**  
Herschel's reflecting telescope