

# SPECTRA™

## Physics Transparencies

Keuffel and Esser Co., Educational/Audiovisual Division

No.	Description
1-4	Ruled, blank graphs (have only no. 4, the centimeter grid)
5	The scale, centimeter and inch; The 360° protractor
6	The slide rule
7	The vernier caliper
8	The micrometer caliper
9	Length, area and volume
10	English and metric units of volume; Density of water, improper conversion between metric unit of mass and English units of weight
11	Metric system prefixes and powers of ten; Exponential notation
12	Physics Units (Time, Length, Velocity, Acceleration, Force, Mass, Work, Energy)
13	Physics Units (Momentum, Power, Torque, Moment of Inertia, Density, Pressure)
14	The relationship between weight and position above and below the earth's surface
15	Addition of vectors
16	Resolution of vectors into their components
17	Moment of force (shown with a first class lever)
18	Uniform acceleration (of freely falling body w/ and w/out upward velocity; w/ and w/out horizontal velocity)
19	Newton's first law of motion
20	Newton's second law of motion
21	Newton's third law of motion
22	Work
23	Kinetic and potential energy (illustrated by a pendulum)
24	The lever, wheel and axle or pulley
25	The wedge, the inclined plane and the screw
26	Newton's law of universal gravitation
27	Kepler's first law
28	Kepler's second law
29	Kepler's third law
30	Fluid pressure
31	Calculation of buoyancy
32	Pascal's principle (hydraulic press)
33	Three temperature scales
34	Heat units (calorie, B.T.U.)
35	Heat conductivity
36	Heat of fusion and vaporization/Changes in state of water
37	Transverse waves
38	Longitudinal (compression) waves
39	Electromagnetic waves
40	Electromagnetic spectrum
41	Interference (Constructive and destructive)

- 42 Beats
- 43 Beat frequency
- 44 Young's double-slit experiment
- 45 Young's double-slit experiment (in 3-D projection)
- 46 Model of interference (set of two transparencies with pattern of concentric circles)
- 47 Michelson's interferometer
- 48 Diffraction grating
- 49 Diffraction spectroscopy (Gratings and spectra)
- 50 Line emission spectra
- 51 Line absorption spectra
- 52 Inverse square law (with definitions of units of illumination)
- 53 Light and the prism (deviation and dispersion)
- 54 (Wavelength of) Maximum sensitivity of the eye
- 55 Images from (concave) mirrors
- 56 Spherical vs. parabolic mirrors (and correction of spherical aberration)
- 57 Reflection and refraction (critical angle)
- 58 Images from lenses (double convex)
- 59 Defects in lenses (and their corrections)
- 60 The camera and the eye
- 61 Camera focal length/F number
- 62 Camera aperture and depth of field
- 63 Eye accommodation: Normal eye, myopic eye and presbyopic eye (w/ corrections for the latter two)
- 64 The microscope
- 65 The telescope (astronomical and terrestrial)
- 66 The projector
- 67 Torsion balance (to illustrate measurement of the universal gravitational constant or that in Coulomb's law)
- 68 Millikan's oil drop experiment
- 69 The Wheatstone bridge
- 70 The earth as a magnet
- 71 Magnetic polarity of a coil (solenoid)
- 72 Electrical meters (the d'Arsonval movement)
- 73 Self-induction
- 74 The induction coil
- 75 AC generator
- 76 DC generator and DC motor
- 77 The transformer
- 78 The atom
- 79 The periodic table
- 80 Rutherford's scattering experiment
- 81 Natural radioactivity
- 82 Atomic symbols (and information in the periodic table)
- 83 The uranium series of radioactive decay
- 84 Half-life and the decay curve
- 85 Mass spectrometer
- 86 The cyclotron
- 87 Nuclear fission/chain reaction
- 88 A nuclear reactor