
 INDEX

Pages with an illustration are marked with an i and pages with a table are marked with a t. Pages marked “path” show the path of an eclipse across the earth’s surface, while a “map” shows additional details, including names of specific locations.

- afocal coupling, 54–7, 54i, 57i, 58i
 annular eclipse, *see* eclipses, solar, annular
 Apollo, 12, 103
- B* (brightness constant), 125
 Babcock, Bryce, 113
 back focus, 53, 55i
 Baily’s beads, 42, 43–4
 Baja California, 118–19
 Behr, Brad, 113
 bracketing, 50
- camcorders, 102–10
 image sizes, 105t
 cameras, 46–50
 hand-held, 107i
 Canada–France–Hawaii Telescope, 11, 116
 Cassegrain telescopes, 53, 53i
 CCDs, 10, 103–4
 Celestron telescopes, 53
 charge-coupled devices, *see* CCDs
 Chou Hsiang, 4
 chromosphere, 43
 Columbus, Christopher, 6, 9
 compression, 54i
 converter lens, 105
 Coordinated Universal Time (UTC), 15
 corona, 9, 39–42, Plates 1–7
 Coulter, Roy, 116
 coupling camera to telescope, 52–7
- Deming, Drake, 117
 diamond ring, 42, 43–4, 43i, Plate 4,
 Plate 8
 Dresden Codex, 7–9
- eclipses, lunar, 5, 13–28, 14i
 partial, 15, 15t, 17i, *see also* partial
 phases
 1970, August 17, 18i
 1991, December 9, Plate 14
 1994, May 25; path, 21i
 1995, April 15; path, 22i
 1997, March 24; path, 25i
 1999, July 28; path, 27i
 partial phases of total eclipses
 1975, May 24, 17i
 1982, December 30, 19i, Plate 13
 1992, June 16, 18i
 penumbral, 15
 total, 14i, 15t, *see also* partial phases
 1996, April 4; path, 23i
 1996, September 27; path, 24i
 1997, September 16; path, 26i
 umbral, 1993–2000, 15t
 why they occur, 13
- eclipses, solar, 29–45, 59–101
 1994–1999, *see also* individual dates
 paths and dates, 31i, 67
 path tables, 86–96
 ancient, 2–4
 annular, 30, 31i, 74–6, 75i
 1973, December 24, Plate 12
 1984, May 30, 1984, 38i, 40i, Plate 11
 1992, January 4, Plate 10
 1994, May 10, 59–66; map, 60i–63i;
 path, 77i; path of annularity,
 64t–66t; path table, 87t; site
 selection, 59
 1995, April 29; path, 79i; path
 table, 89t

- eclipses, solar (continued)
- 1998, August 22, 74–5; path, 83i; path table, 93t
 - 1999, February 16, 75; path, 84i; path table, 94t
 - longest, 9
 - partial, 96
 - total, 31i
 - 1979, February 26, Plate 7
 - 1980, February 16, Plate 6
 - 1981, July 31, 42i, Plate 4
 - 1984, November 22, Plate 2, Plate 5
 - 1990, July 22, 107i, 108i, Plate 1
 - 1991, July 11, 5, 9, 42i, 115i, Plate 9; personal essay, 111–28
 - 1992, June 30, Plate 3
 - 1994–1999, 67–101; paths, 31i, 68i
 - 1994, November 3, 43i, 67–72; map, 69i–70i; path, 78i; path tables, 88t, 100t–101t
 - 1995, October 24, 72; path, 80i; path table, 90t
 - 1997, March 9, 72–3; path, 81i; path table, 91t
 - 1998, February 26, 73–4; path, 82i; path table, 92t
 - 1999, August 11, 74, 97–101; map, 98i–99i; path, 85i; path table, 95t, 100t–101t; site selection, 97
 - 2009, July 22, 9
 - 2017, August 21, 76
 - 2026, August 12, 76
 - totality, 39–42
 - US, next total, 76
 - videotaping, 102–10
 - viewing projected images, 33–5, 33i, 34i
 - why they occur, 4–5
 - Edberg, Steve, 119
 - Edgerton, Sam, 7–9, 119
 - 8-mm camcorders, 103, 108i
 - Espenak, Fred, 102, 105, *see also maps and charts*
 - exposure tables, 125–32
 - moon, 126t–130t
 - sun, 130t–132t
 - exposures
 - determining, 50–2, 52t, 132t–135t
 - photographic, 17–20
 - eye protection, 30–2
 - f*-ratio, 57
 - Fierro, Julietta, 111, 118
 - film, choosing, 39, 44, 52
 - filter factor, 35
 - filters, solar
 - light transmission of, 351
 - obtaining, 124
 - safe and unsafe, 36t
 - use in photography, 35–9
 - focal length, 56
 - focusing, 55–6, 58
 - Freddolino, Michelle, 118
 - Golub, Leon, 118
 - greatest eclipse, 86
 - Haggard, H. R., 6
 - Hall, Donald, 111, 113, 114, 117
 - Halley, Edmund, 2
 - Hawaii, 111–20
 - Hawkins, Gerald, 7
 - HDTV, *see* High-Definition Television
 - Herodotus, 7
 - Hiei, Eijiro, 117
 - Hi-8 camcorders, 103, 107i
 - High-Definition Television, 102–3, 117
 - Ho, 2
 - horizon views, 45
 - Hoyle, Fred, 7
 - Hsi, 2
 - Hubble Space Telescope, 112
 - image sizes, 46, 47t
 - camcorders, 105t
 - infrared light, 32
 - International Astronomical Union, 117
 - Jordan, Carole, 118
 - Julian Dates, 28, 86
 - Keck Telescope, 117
 - King Solomon's Mines*, 6
 - Kissell, Judith, 119
 - Koutchmy, Serge, 116, 119–20
 - Kutner, Eric, 115
 - LaBonte, Barry, 113, 116
 - lenses, 46–50
 - converter, 105
 - field of view, 48t
 - Lindsay, Charlie, 117
 - logarithmic density, 35
 - lunar eclipses, *see* eclipses, lunar
 - Maksutov–Cassegrain telescopes, 53, 53i
 - Mauna Kea, 11, 111–18
 - Maxwell Telescope, 116
 - Meade telescopes, 53
 - Menzel, Donald H., 111
 - Mexico, 119
 - Monnet, Guy, 116
 - moon, 47i, 49i, 50i, 56i
 - full, 58i

-
- National Geographic*, 111, 117, 122–3
 National Geographic Society, 102, 111
 negative projection, 54i
 Newton, Sir Isaac, 2
 Newtonian telescopes, 53, 53i
 Nicol, Marjorie, 102, 108i
Nuremberg Chronicle, 4

 Olson, R. J. M., 4

 Pang, Kevin, 4
 Pasachoff, Deborah, 115
 Pasachoff, Eloise, 107i, 118
 penumbra, 13, 14i, 17i, Plate 14
 photographic exposures, 17–20
 photography, 46–58
 planning, 45
 use of filters, 35–9
 Pinatubo, Mt., 111, 114, 117
 Pliny, 2
 positive projection, 54i
 prime focus, 54i
 prime-focus coupling, 52
 prominences, 43, Plate 7

 Questar telescopes, 53

 refractors (telescopes), 53i
 Reardon, Kevin, 113
 Ressmeyer, Roger, 111, 117
 Ruelas, Alexandro, 119

 safety, 30–9
 saros, 1–2, 9
 Schmidt–Cassegrain telescopes, 53, 53i
 shadow bands, 44–5
 solar activity, 9
 solar eclipses, *see* eclipses, solar

 solar flares, 11
 Solar Maximum Mission, 11
 “Solar Skreen,” 37
 Stephenson, F. Richard, 2–3
 Stonehenge, 2, 7
 sunspot cycle, 9, 68i
 S-VHS, 103

 telescopes, 53, 53i
 optical configurations for
 photography, 54i
 Tenskwatawa, 6
 Thales, 7
 Thousand Oaks Optical, 37, 108, 124
 time zones, 15–17, 16t
 Tuthill, Roger W., 37, 107, 124
 Twain, Mark, 5–6

 Ulmschneider, Peter, 113
 ultraviolet light, 32
 umbra, 13, 14i, 17i, Plate 14
 United Kingdom Infrared Telescope, 117
 Universal Time (UT), 15
 converting to local time, 16t

 VHS camcorders, 103
 Vial, Jean-Claude, 116
 Video-8 recorders, 103
 videotaping, 102–10
 annular eclipses, 109
 camcorders, 110
 partial phases, 109–10
 Vogel, Stuart, 102

 Yohkoh, 11

 Zirin, Hal, 117
 zone of partiality, 29, 30i
 zone of totality, 29, 30i