

Astronomy: The Evolving Universe 9/e

Chapter 1 Key Terms

angular diameter
angular distance
angular speed
celestial pole
circumpolar stars
conjunction
constellation
eclipse (lunar/solar)
ecliptic
equinox (spring/fall)
geocentric
horizon
maximum elongation
noon
opposition
phases (moon)
planets
precession of the equinoxes
retrograde motion
solar day
solstice (summer/winter)
zodiac

Chapter 2 Key Terms

cosmos
force
forced motion
geocentric
heliocentric
heliocentric stellar parallax
natural motion
scientific model
stellar parallax (heliocentric)

Chapter 3 Key Terms

aphelion
astronomical unit (AU)
eccentricity
ellipse
focus
Kepler's laws of planetary motion
major axis
perihelion
semimajor axis
sidereal period
synodic period

Chapter 4 Key Terms

acceleration
center of mass
central force
centripetal acceleration
centripetal force
escape speed
free-fall
gravitation
inertia
inverse-square law
mass
mechanics
Newton's laws of motion
speed
velocity

Chapter 5 Key Terms

absorption line
absorption-line spectrum
atom
Balmer series
Bohr model of the atom
conservation of energy
continuous spectrum
electromagnetic spectrum
electron
element
emission line
emission-line spectrum
energy
energy level
excitation
flux
frequency
ground state
heat
ionization
kinetic energy

Kirchhoff's rules

neutron
nucleus
photon
potential energy
proton
radiative energy
spectral line
spectroscope
spectroscopy
spectrum
temperature
transition
wavelength

Chapter 6 Key Terms

atmospheric absorption
detector
eyepiece
f-ratio
focal length
image
image processing
lens
light-gathering power
magnifying power
objective
optics
radio interferometer
radio telescope
refracting telescope
refraction
reflecting telescope
reflection
resolution
seeing
theoretical resolution

Chapter 7 Key Terms

closed geometry
curvature of spacetime
expansion of the universe
flat (open) geometry
general theory of relativity
hyperbolic (open) geometry
open geometry
principle of equivalence
spacetime
special theory of relativity
spherical geometry

Chapter 8 Key Terms

accretion
convection
core
crust
density
dynamo model
energy
evolutionary lifetime
greenhouse effect
heat
magnetic field lines
magnetosphere
mantle
plate tectonics

pressure
radioactive dating
terrestrial planets
thermal energy
volcanism

Chapter 9 Key Terms

anorthosites
arroyos
atmospheric escape
basins
breccias
craters
highlands
impact cratering
lowlands
lunar soil
mare (pl. maria)
mare basalts
outgassing
polar caps
retrograde rotation
shield volcano
synchronous rotation
tidal forces
volatiles

Chapter 10 Key Terms

belts
differential rotation
Galilean moons
Jovian planets
metallic hydrogen
ring systems
ringlets
shepherd satellites
zones

Chapter 11 Key Terms

accretion
asteroid
asteroid belt
carbonaceous chondrites
chondrites
chondrules
coma
condensation
condensation sequence
dirty snowball comet model

dust tail
giant impact model
gravitational contraction
ion tail
irons
meteorites
meteoroids
meteors
nebular models
nucleus (of a comet)
Oort Cloud
parent bodies
periodic comets
planetesimals
protoplanets
S-, C-, and M-type asteroids
solar nebula
stones
stony-irons
volatiles
Widmanstätten figures

Chapter 12 Key Terms

active region
blackbody (radiator)
carbon - nitrogen - oxygen (CNO) cycle
chromosphere
conduction
convection
core (of the sun)
corona
coronal holes
differential rotation
dynamo model (solar)
flux
luminosity
neutrino
nuclear fusion
opacity
photosphere
Planck curve
proton - proton (PP) chain
radiation
solar flares
solar wind

Stefan - Boltzmann law

sunspots
surface temperature
Wien's law

Chapter 13 Key Terms

binary star system
giant
heliocentric parallax
Hertzsprung - Russell diagram
inverse-square law for light
luminosity class
main sequence
mass - luminosity relation
spectroscopic binary
spectroscopic distances
stellar lifetimes
stellar spectral sequence
stellar surface temperatures
supergiant
white dwarf

Chapter 14 Key Terms

bipolar outflows
bright nebula
core-mantle grains
coronal interstellar gas
dark clouds
emission nebula
extinction
giant molecular clouds
H I region
H II region
interstellar dust
interstellar gas
interstellar medium
nebula
pre-main-sequence star
protostar
reddening
reflection nebula
T-Tauri stars
young stellar objects

Chap 15 Key Terms

black dwarf
cepheid variables
degenerate electron gas
degenerate gas pressure
evolutionary track
globular clusters
helium flash
horizontal branch
instability strip
main-sequence lifetime
nucleosynthesis
open clusters
periodic (regular) variables
planetary nebula
Population I stars
Population II stars
RR Lyrae stars
star model
thermal pulses
triple-alpha reaction
turnoff point
variable stars
zero-age main sequence (ZAMS)

Chapter 16 Key Terms

accretion disk
beta decay
black hole
Chandrasekhar limit
Crab Nebula
gamma-ray burster
hypernova
inverse beta decay
lighthouse model
millisecond pulsar
neutron star
polarization
pulsar
rapid process
Roche lobe
Schwarzschild radius
singularity
Sirius B
slow process

supernova remnant
synchrotron radiation
Type I supernova
Type II supernova
white dwarf
x-ray bursters

Chapter 17 Key Terms

dark matter
density-wave model
disk (of a galaxy)
galactic rotation curve
halo (of a galaxy)
nuclear bulge
nucleus (of a galaxy)
period - luminosity relationship
spiral arm
spiral tracers

Chapter 18 Key Terms

binary galaxies

clusters of galaxies

Coma cluster

elliptical galaxy

galactic cannibalism

intergalactic medium

irregular galaxy

Local Group

Local Supercluster

Magellanic clouds

mass - luminosity ratio

rotation curve

spiral galaxy (normal and barred)

starburst galaxies

superclusters

supergiant elliptical galaxies

uniformity of nature

voids

zone of avoidance