



What is the Best Telescope to Buy?

Skylight Astronomical Society, Inc. (SAS)

by Marc Lamere / Terry Riopka

January 30, 2025

How To Choose a Telescope (review)

Most important feature: **stable and adjustable mount!**

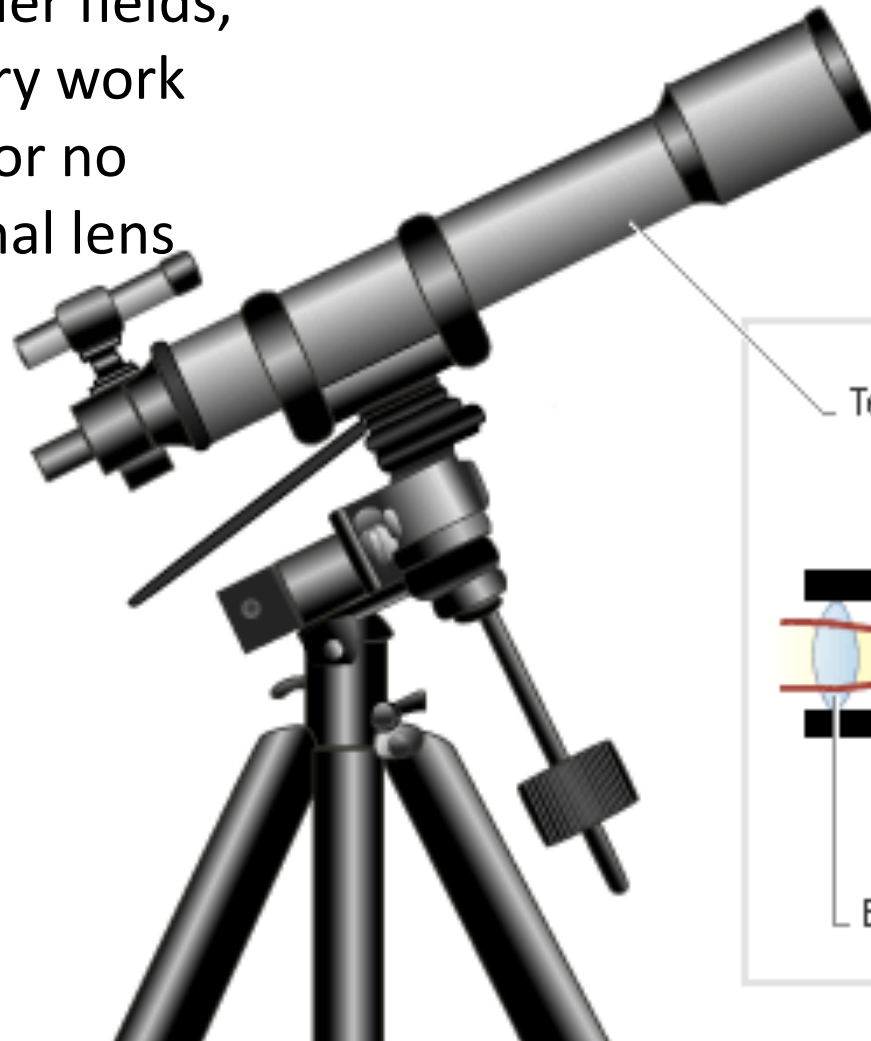
- Stability:
- minimize vibrations and “settling” time
 - prevent accidental damage to optics
 - maintain calibration

- Adjustability:
- need to be able to locate astronomical objects
 - need to be able to fine tune locations
 - need to be able to easily track objects (if not automatically, then manually)

Types of Telescopes – Refractor (review)

Objective lens + eyepiece lens

- typically used for wider fields, excellent for planetary work
- usually require little or no adjustment, occasional lens cleaning



Refracting Telescope

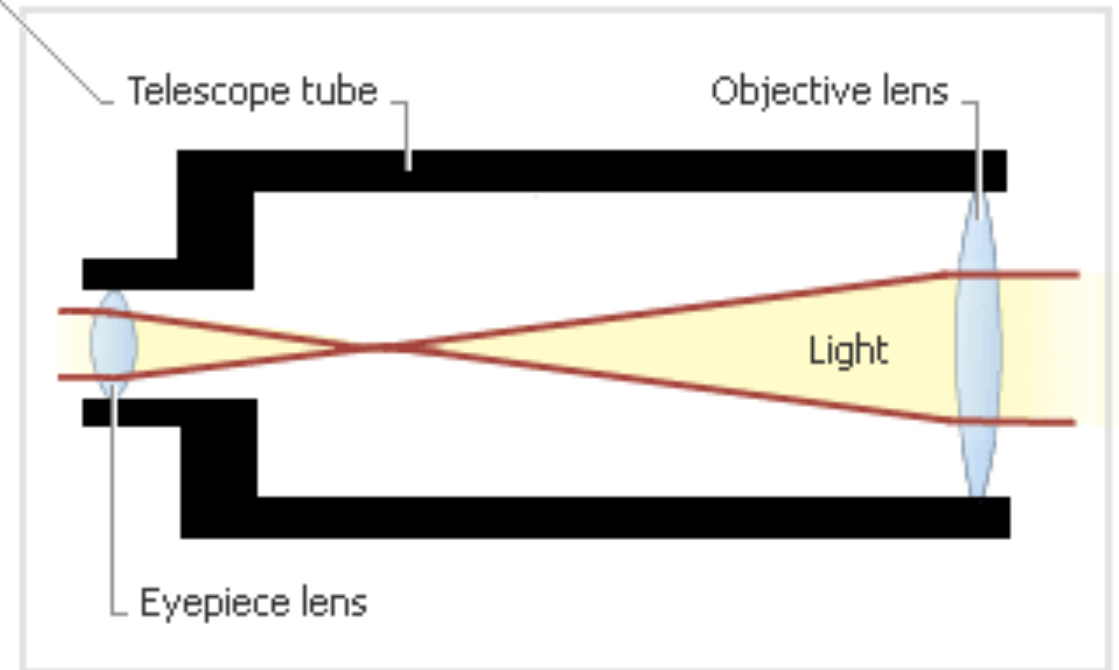


Diagram from Encarta
Encyclopedia 2004

Types of Telescopes – Newtonian Reflector (review)

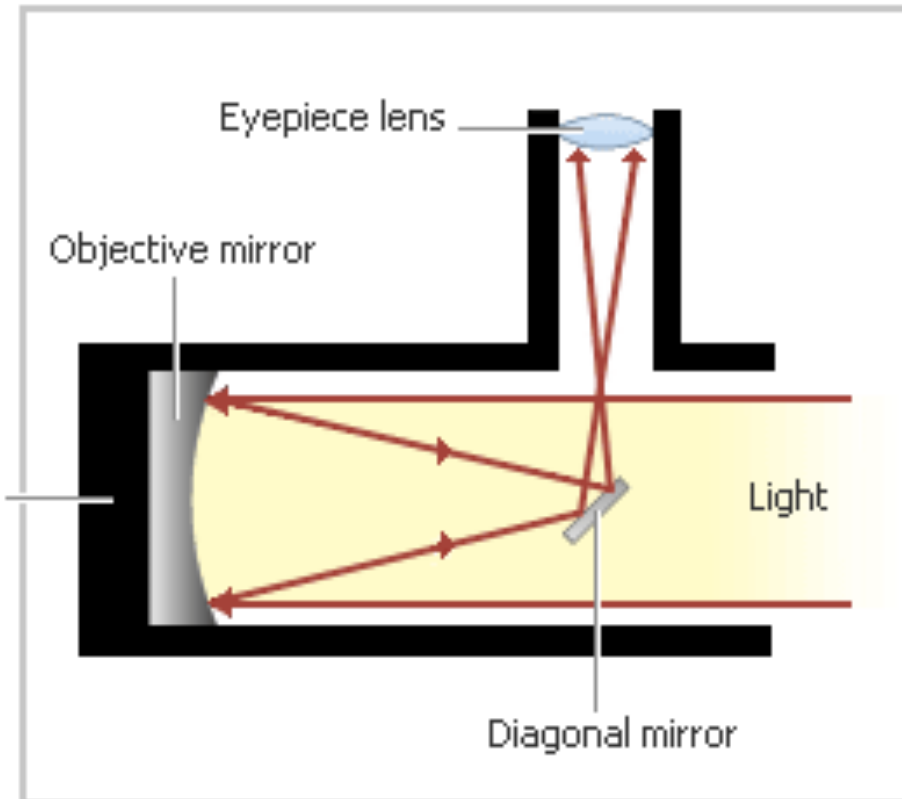
Curved Mirror + flat mirror + eyepiece lens

- typically used for deep sky
- require periodic collimation
- may require mirror cleaning



Diagram from Encarta
Encyclopedia 2004

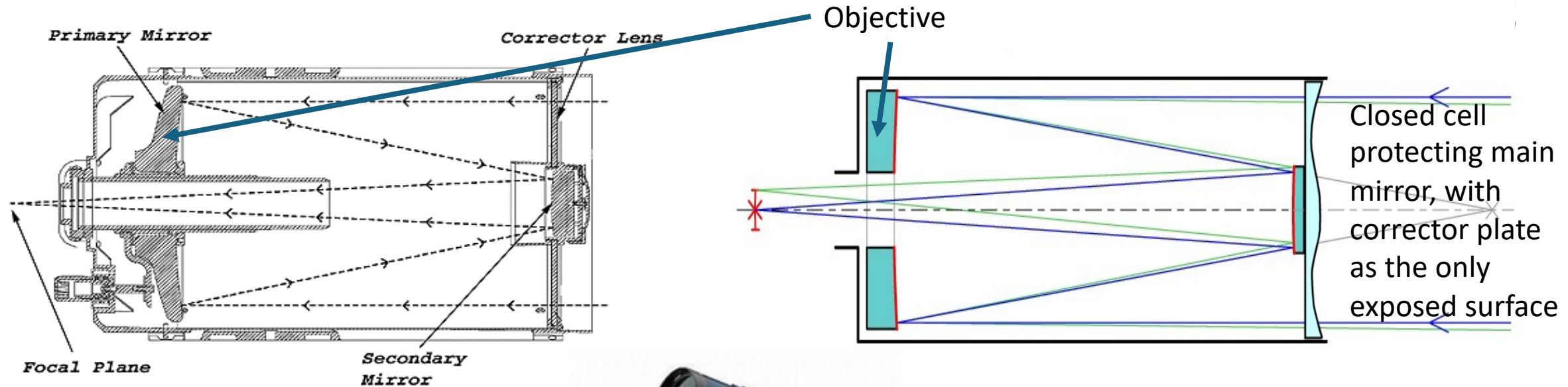
Newtonian Reflecting Telescope



Open cell,
exposing
main mirror
to the sky

Types of Telescopes – Schmidt Cassegrain, SCT (review)

Curved mirror + curved mirror + eyepiece lens



Images from: A-level Physics Tutor
www.a-levelphysicstutor.com/optics-telescopes.php

- typically used for both planets and deep sky
- require periodic collimation
- may require corrector cleaning



Similar scope designs:

- Maksutov-Cassegrain
- Ritchey-Chretien

What is the Best Telescope to Buy??

“Depends”

Goal for its Use

Evolutionary Path

Budget

- Take “one-off” pictures
- To encourage a youngster
- Visual observation of mostly objects in the Solar System
- Visual observation of deep sky objects
- Visual observation of both
- Visual observation of wide field
- Imaging (Solar System)
- Imaging (deep field)
- Imaging (wide field)
- Scientific contribution
 - Enticement only
 - Visual casual
 - Visual casual -> visual serious
 - Visual casual -> visual serious -> imaging casual
 - Visual casual -> visual serious -> imaging casual -> imaging serious

- \$250 - \$500
- \$500 - \$1000
- \$1000 - \$2000
- \$2000 - \$5000
- \$5000 - \$10000

What is the Best Telescope to Buy??

High Point Scientific

BEST TELESCOPES FOR 2025

BEST COMPUTERIZED
BUNDLE



CELESTRON NEXSTAR 8SE
BUNDLE

~~\$2,008.85~~ **\$1,599.95**

BEST OVERALL VISUAL
TELESCOPE



APERTURA AD8 8"
DOBSONIAN

~~\$699.95~~ **\$599.95**

BEST OVERALL SMART
TELESCOPE



CELESTRON ORIGIN SMART
TELESCOPE

\$3,999.00

BEST VALUE SMART
TELESCOPE



ZWO SEESTAR S50 SMART
TELESCOPE

\$499.00

BEST ASTROPHOTOGRAPHY
NEWTONIAN



APERTURA CARBONSTAR
150 W/ COMA CORRECTOR

~~\$1,119.95~~ **\$999.95**

BEST ASTROPHOTOGRAPHY
REFRACTOR



APERTURA 75Q REFRACTOR
W/ REDUCER

~~\$1,929.90~~ **\$1,199.95**

What is the Best Telescope to Buy??

High Point Scientific



**Celestron NexStar 130 SLT
Ultimate Telescope Bundle**

SKU: CEL-31145-BUN2



Free Shipping

\$849.95



**Celestron NexStar 4SE
Telescope Bundle**

SKU: CEL-11049-BUN1



Free Shipping

\$979.95



**Celestron NexStar 5SE
Telescope Bundle**

SKU: CEL-11036-BUN1



Free Shipping

\$1,229.95



**Celestron NexStar 6SE
Telescope Bundle**

SKU: CEL-11068-BUN1



Free Shipping

~~\$1,508.85~~ **\$1,299.95**

What is the Best Telescope to Buy??

High Point Scientific



**Celestron FirstScope 76mm
Tabletop Dobsonian Telescope**

SKU: CEL-22016



\$74.95



**Celestron PowerSeeker 80 AZ
Telescope**

SKU: CEL-21087



\$179.95



**Sky-Watcher Heritage 130
Tabletop Dobsonian**

SKU: SKY-S11705



 **Free Shipping**

\$275.00



**Celestron AstroMaster
102AZ Refractor Telescope**

SKU: CEL-22065



 **Free Shipping**

\$349.95

What is the Best Telescope to Buy??

Explore Scientific



\$ 199.99

Explore FirstLight 80mm
Refractor Telescope with
Twilight Nano Mount - FL-
AR80640TN

Explore Scientific



\$ 249.99

Explore FirstLight 114mm
Newtonian Telescope with
Twilight Nano Mount - FL-
N114500TN

Explore Scientific



\$ 349.99

Explore FirstLight 130mm
Newtonian Telescope with EQ3
Mount - FL-N130600EQ3

Explore Scientific



\$ 379.99

Explore FirstLight 102mm
Doublet Refractor Telescope
with EXOS EQ Nano Mount -
FL-AR1021000EQ3

Explore Scientific

Reputable Vendors

Telescope Manufacturers

Name	Website	Products
Celestron	www.celestron.com	telescopes, binoculars, accessories
Sky-Watcher	www.skywatcher.com	telescopes, mounts, access., binocs.
Explore Scientific	explorescientificusa.com	telescopes, eyepieces, mounts, access.
iOptron Corporation	www.ioptron.com	mounts, mounts + telescope
Vixen Optics	explorescientificusa.com	telescopes, eyepieces, mounts, access.
Tele Vue Optics, Inc.	www.televue.com	telescopes, eyepieces, mounts, access.
Stellarvue	www.stellarvue.com	telescopes, mounts, eyepieces, access.
William Optics	www.williamoptics.com	telescopes, eyepieces, finders, access.

Telescope Vendors

Name	Website	Products
Highpoint Scientific	www.highpointscientific.com	telescopes, mounts, access., binocs., microscopes
Agena	http://Agenaastro.com	telescopes, mounts, access., binocs.
B&H Sales	www.bhphotovideo.com	cameras, telescopes, binoculars, accessories
Celestron	www.celestron.com	telescopes, binoculars, accessories
Sky-Watcher	www.skywatcher.com	telescopes, mounts, access., binocs.
Explore Scientific	explorescientificusa.com	telescopes, eyepieces, mounts, access.
iOptron Corporation	www.ioptron.com	mounts, mounts + telescope

A deep space photograph showing a vast field of stars and galaxies. The background is a dark, black void filled with numerous bright, white and yellow stars of varying sizes and colors. Several prominent galaxies are visible, including a large, bright, yellowish-white elliptical galaxy in the lower-left quadrant, a smaller, bright, yellowish-white elliptical galaxy in the lower-center, and a small, bright, yellowish-white elliptical galaxy in the upper-left. A few faint, blue-tinted galaxies are scattered throughout the field. The overall scene is a rich, multi-colored star field.

Are You Ready?