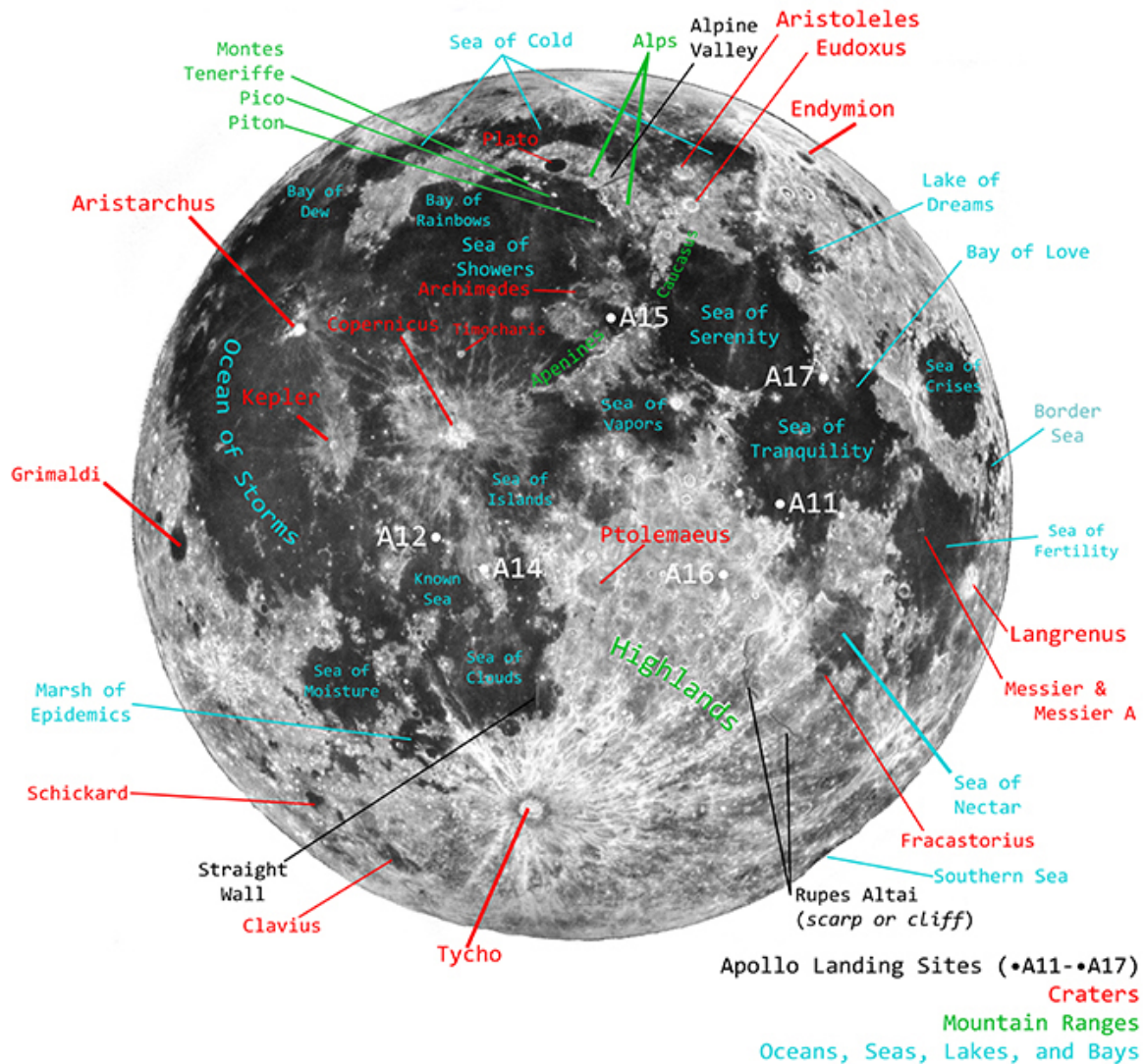


The Moon and its features

This is a guide to the surface features on the Moon which you can see with binoculars or a small telescope.





The Moon without labels



What features can you identify? Seas? Craters? Mountains? Do you know where the astronauts landed?



The Maria (*or seas, oceans, bays and lakes*)

These do not have any water, nor are they craters, they are ancient hardened lava flows on the surface of the Moon.

Listed from west to east (left to right) English name (latin name)

- Ocean of Storms (*Oceanus Procellarum*)
- Bay of Dew (*Sinus Roris*)
- Sea of Cold (*Mare Frigoris*)
- Bay of Rainbows (*Sinus Iridum*)
- Sea of Showers (*Mare Imbrium*)
- Sea of Islands (*Mare Insularum*)
- Known Sea (*Mare Cognitum*)
- Sea of Moisture (*Mare Humorum*)
- Marsh of Epidemics (*Palus Epidemiarum*)
- Sea of Clouds (*Mare Nubium*)
- Sea of Vapors (*Mare Vaporum*)
- Sea of Serenity (*Mare Serenitatis*)
- Lake of Dreams (*Lacus Somniorum*)
- Sea of Tranquility (*Mare Tranquilitatis*)
- Bay of Love (*Sinus Amoris*)
- Sea of Nectar (*Mare Nectaris*)
- Southern Sea (*Mare Australe*)
- Sea of Fertility (*Mare Fecunditatis*)
- Sea of Crises (*Mare Crisium*)
- Border Sea (*Mare Marginis*)



Craters

The Moon's craters were created by meteoric impacts on the surface. There are over 5000 craters larger than 12 miles in diameter, here are a sampling of them that can be found with a small telescope or binoculars.

List west to east (left to right)

- **Grimaldi** *Dia. 140 mi. flooded with hardened lava. Named for Francesco Grimaldi (1618-1663), an Italian astronomer who created an early map of the Moon.*
- **Schickard** *Dia. 140 mi. partially flooded. Named for Wilhelm Schickard (1592-1635), a German astronomer.*
- **Aristarchus** *Dia. 24 mi. bright crater and ray system, suggesting it is young, perhaps only 450 million years old. Named for Aristarccus of Samos (c.31-230 BCE), a Greek astronomer who was the first to suggest the Earth might go around the Sun and that Earth spins on its axis.*
- **Kepler** *Dia. 20 mi. bright crater. Named for Johannes Kepler (1571-1630), a German astronomer who mathematically proved how the planets orbit the Sun.*
- **Clavius** *Dia. 140 mi. There is a curving arc of progressively smaller craters inside Clavius, a fine telescopic sight. Named for Christoph Klau (1537-1612), a German astronomer.*
- **Copernicus** *Dia. 58 mi. over 2 mi. deep. Named for Nicholas Copernicus (1473-1543), a Polish astronomer who definitively showed that Earth orbits the Sun.*
- **Timocharis** *Dia. 21 mi. Named for Timocharis (c.280 BCE), a Greek astronomer.*
- **Archimedes** *Dia. 51.5 mi. prominent flooded crater. Named for Archimedes (c. 287-212 BCE), a Greek mathematician and physicist.*
- **Plato** *Dia. 62 mi. flooded crater. Named for Plato (c.427-347 BCE), a Greek philosopher.*
- **Tycho** *Dia. 53 mi. A young crater with the brightest and most extensive ray system visible on the Moon. Named for Tyco Brahe (1546-1601), a Danish astronomer who took such meticulous observations that his records enabled Kepler to discover the true motions of the planets.*
- **Ptolemaeus** *Dia. 95 mi. Named for Claudius Ptolemy (90-140), a Greek astronomer who wrote The Almagest which taught a Earth centered universe.*
- **Aristoteles** *Dia. 54 mi. Named for Aristotle, (c. 384-322 BCE), a Greek philosopher.*



- **Eudoxus** *Dia. 41 mi. Named for Eudoxus (c.400-347 BCE), a Greek astronomer who was a pupil of Plato. He believed there were a series of spheres rotating around Earth, one for each planet and the Sun.*
- **Fracastorius** *Dia. 77 mi. Named for Girolamo Fracasoro (1483-1553), an Italian astronomer and poet.*
- **Endymion** *Dia. 77.5 mi. Named for the mythical character Endymion, a shepard boy who fell asleep and his beauty so moved the cold heart of Selene, the Moon Goddess, that she came down and kissed him, and he then slept on forever.*
- **Messier & Messier A** *Dia. 6 mi. and 5 mi. A pair of small craters with two strong rays projecting westward from Messier A. Together named for Charles Messier (1730-1817), a French astronomer who discovered 14 comets and cataloged more than 100 deep sky objects in his famous Messier Catalogue.*
- **Langrenus** *Dia. 7.4 mi. Named for Michel Florent van Langren (c 1600-1675), a Belgian engineer and mathematician. He drew the first map of the Moon with names of the features.*

Mountains Ranges and Scarps

- **Montes Teneriffe** *A small range of mountains rising to just under 1.5 miles high.*
- **Mon Pico** *An isolated mountain that rises 1.5 miles high.*
- **Mon Piton** *An isolated mountain that rises 1.4 miles high.*
- **Alps Range** *A mountain range 155 miles long with peaks reaching up to 1.5 miles high.*
- **Alpine Valley (Valis Alpes)** *A flooded valley between the Alps 111 miles long.*
- **Caucasus Range** *A mountain range 322 miles long with peaks reaching over 3.5 miles high.*
- **Apennine Range** *A mountain range 372 miles long with peaks reaching up to more than 3 miles high.*
- **Straight Wall (Rupes Recta)** *A fault escarpment 68 miles long with an angled slope of about 7° which is almost a quarter of a mile high from the bottom to the top.*
- **Rupes Altai** *A mountainous fault line or scarp that runs nearly 300 miles long and is more than a half mile high.*



Apollo Manned Missions to the Moon

Missions	Landing date	Crew
• Apollo 11	July 20, 1969	Armstrong & Aldrin on the Moon, Collins in orbit.
• Apollo 12	Nov. 19, 1969	Conrad & Bean on the Moon, Gordon in orbit.
• Apollo 13	Didn't land	Lovell, Haise, and Swigert.
• Apollo 14	Feb. 5, 1971	Shepard & Mitchell on the Moon, Roosa in orbit.
• Apollo 15	July 30, 1971	Scott & Irwin on the Moon, Worden in orbit.
• Apollo 16	April 21, 1972	Young & Duke on the Moon, Mattingly in orbit.
• Apollo 17	Dec. 11, 1972	Cernan & Schmitt on the Moo, Evans in orbit.

