About 300X larger diameter
About 300X closer
Why do the Sun and Moon look the same size?
Although the Sun is much larger than the Moon, they appear to be about the same size in the sky because the Sun is also much more distant. During a solar eclipse if the Moon is relatively slightly closer the Moon blocks the Sun entirely (total eclipse next April) and if the Moon is relatively slightly further away it leaves a ring of the Sun uncovered (annular eclipse this October).
Leo
Cancer
Gemini
Taurus
Aries
Pisces
Aquarius
Capricorn
Sagittarius
Scorpio
Libra
Virgo
Sun and visible planet positions in the Zodiac as seen from Earth's orbit in the Ecliptic plane
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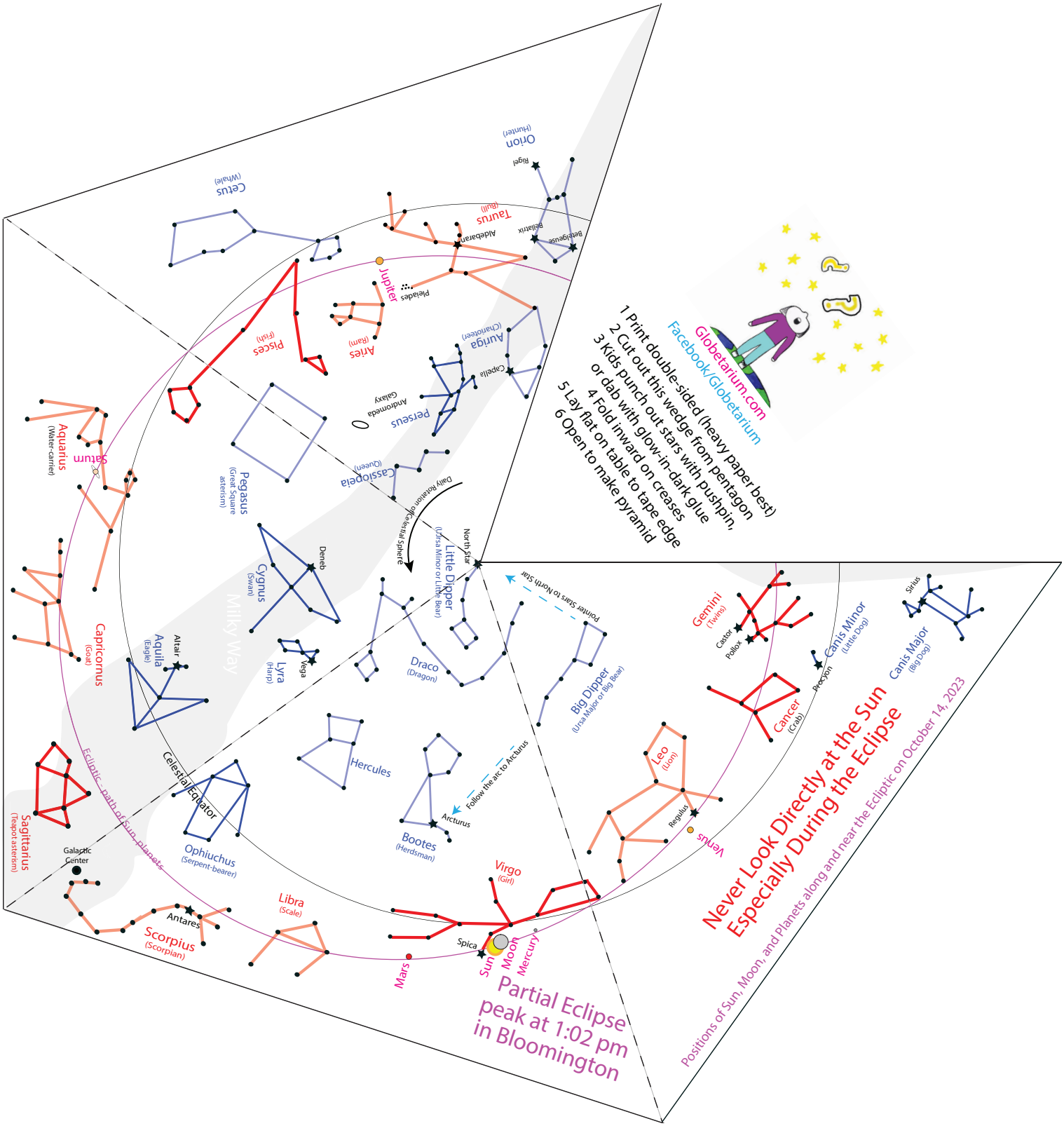
Morning and Night Sky
October 14-20, 2023
All week: Mars visible right after sunset in West as Saturn rises in East along the Ecliptic. Mercury lost in the Sun's glare. Venus rises around 6 am and is visible next to bright star Regulus before Sunrise. Jupiter rises around 11 pm. New Moon invisible in the Sun's glare then emerges after sunset later in week as waxing Crescent Moon.
Ecliptic path of planets and Sun
Saturn
Mars
Horizon
After Sunset
Ecliptic path of planets and Sun
Jupiter
Regulus
Venus
Mercury
Horizon
Before Sunrise
Partial Eclipse October 14, peaks at 1:02 pm
This October's annular eclipse will block almost the entire sun along a path from Oregon to Texas. During next April's total eclipse the Moon will be slightly closer to Earth relative to the Sun, and will block the Sun completely along a path through Indiana. An eclipse occurs when the Moon is circling in front of the Sun (New Moon) just as it crosses the ecliptic plane.
October 14 Eclipse Path (partial eclipse in Bloomington)
April 8 Total Eclipse Path
Why are the Sun, Moon, and Planets in a line?
Earth and the visible planets orbit the Sun in nearly the same plane (the ecliptic plane), and the Moon orbits the Earth in close to the same plane. So we see the Sun, Moon, and planets in one rough line across the night sky (the ecliptic). Each month the Moon crosses the ecliptic twice, and if it crosses during a New Moon just when the Moon is aligned with the Sun, it eclipses the Sun.
Saturn
Mars
Moon,Sun
Mercury
Venus
Jupiter
Ecliptic
Globetarium.com
Facebook/Globetarium


Never Look Directly at the Sun
Especially During the Eclipse
Positions of Sun, Moon, and Planets along and near the Ecliptic on October 14, 2023
Partial Eclipse
peak at 1:02 pm
in Bloomington
1 Print double-sided (heavy paper best)
2 Cut out this wedge from pentagon
3 Kids punch out stars with pushpin,
or dab with glow-in-dark glue
4 Fold inward on creases
5 Lay flat on table to tape edge
6 Open to make pyramid
Globetarium.com
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Cetus (Whale)
Orion (Hunter)
Rigel
Taurus (Bull)
Aldebaran
Betelgeuse
Bellatrix
Jupiter
Pleiades
Pisces (Fish)
Aries (Ram)
Auriga (Charioteer)
Capella
Perseus
Andromeda Galaxy
Cassiopeia (Queen)
Aquarius (Water-carrier)
Saturn
Pegasus (Great Square asterism)
Daily Rotation of Celestial Sphere
North Star
Little Dipper (Ursa Minor or Little Bear)
Pointer Stars to North Star
Deneb
Cygnus (Swan)
Milky Way
Capricornus (Goat)
Altair
Aquila (Eagle)
Vega
Lyra (Harp)
Draco (Dragon)
Big Dipper (Ursa Major or Big Bear)
Gemini (Twins)
Castor
Pollux
Canis Minor (Little Dog)
Procyon
Sirius
Canis Major (Big Dog)
Cancer (Crab)
Leo (Lion)
Regulus
Venus
Hercules
Follow the arc to Arcturus
Arcturus
Bootes (Herdsman)
Celestial Equator
Ecliptic - path of sun, planets
Ophiuchus (Serpent-bearer)
Sagittarius (Teapot asterism)
Galactic Center
Virgo (Girl)
Libra (Scale)
Antares
Scorpius (Scorpian)
Spica
Sun
Moon
Mercury
Mars