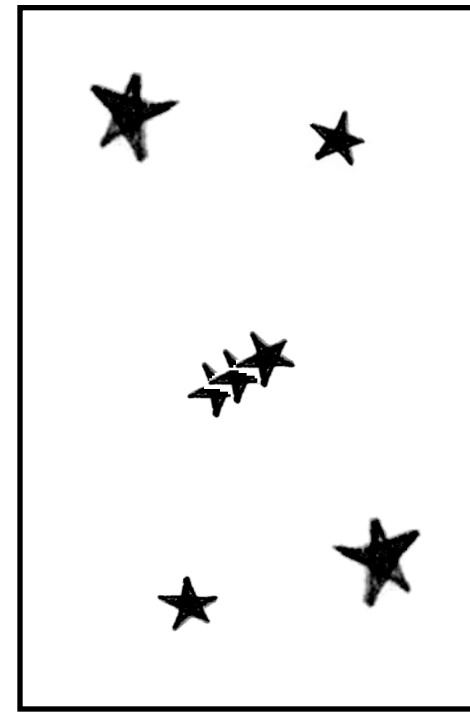


Questions for the Stargazer

- 1 What is the brightest star in the night sky?
- 2 What constellation is this? →
It can be seen on a winter's night.
- 3 From a dark country location, about 2000 stars can be seen by the unaided eye. How many stars can be seen from a typical large city?
a. No stars can be seen at all
b. Less than 100
c. About 1000



- 4 How far above the Earth does the International Space Station orbit?
a. 200 miles
b. 2000 miles
c. 200,000 miles

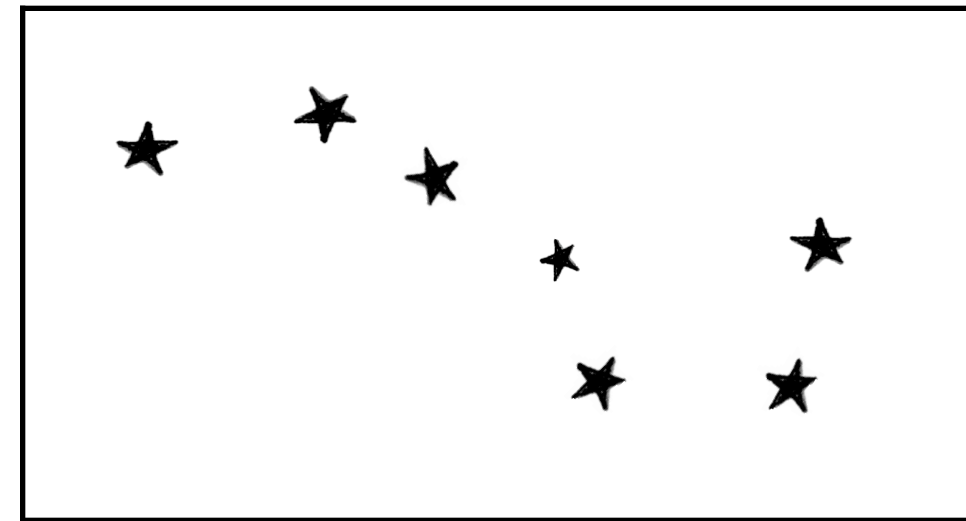


- 5 What is the name of this naked eye star cluster that appears in the autumn and winter skies? (Hint: Even though it is "dipper" shaped, it is not the "Little Dipper.")

Image courtesy of Gary Hatfield, Starry Estate Observatory

- 6 Which of these statements are part of the "official" definition of a planet? (More than one statement is correct.)
a. it has an atmosphere
b. it has enough gravity to be round
c. it has a moon
d. it has cleared its orbit of other debris
e. it is a satellite of only the sun.

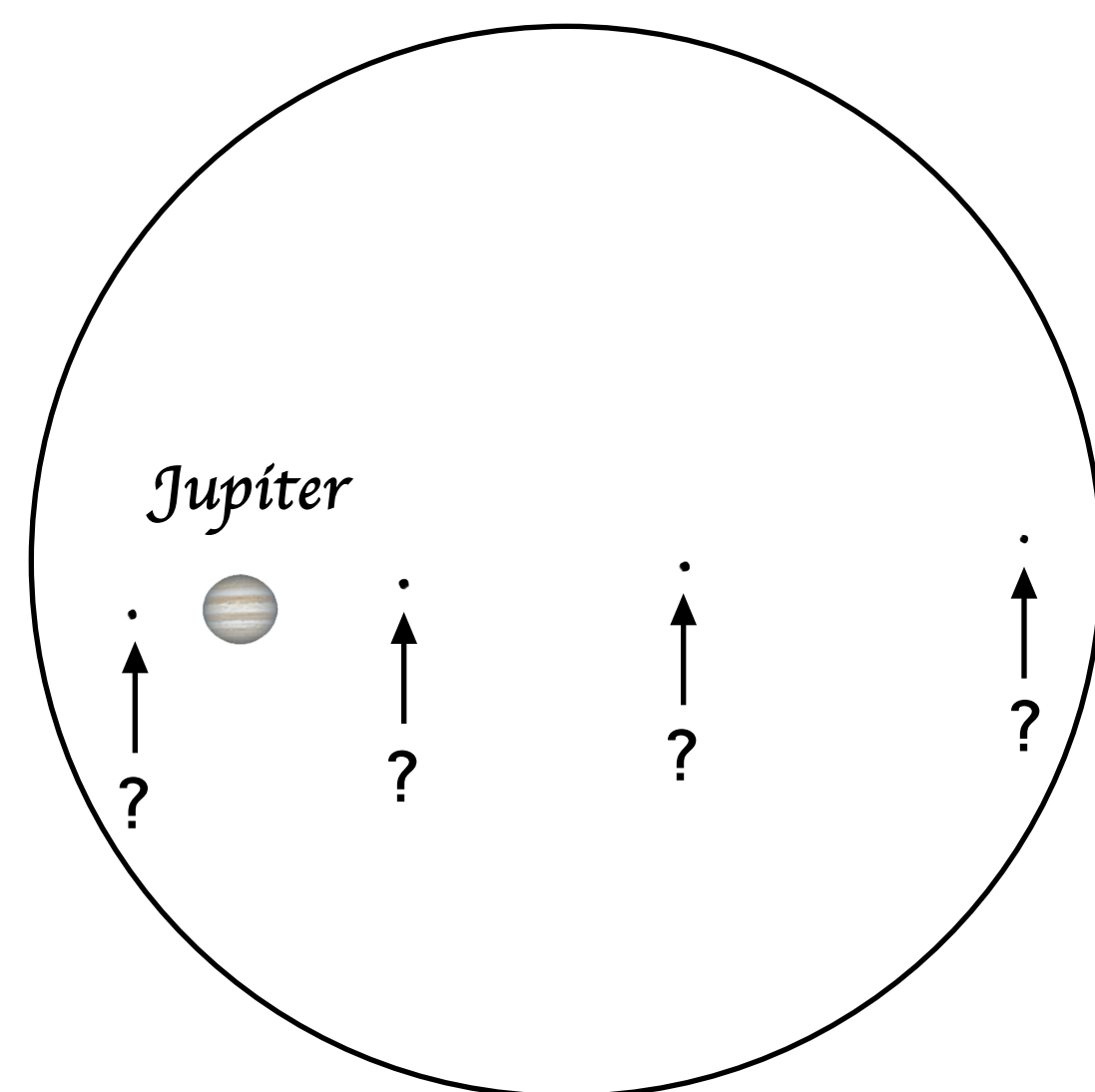
- 7 What star pattern is this?



- 8 Why is Venus so hot?
a. This is a false statement — Venus is not hot.
b. Carbon dioxide in the atmosphere absorbs lots of solar energy, creating a runaway greenhouse effect.
c. Venus is the closest planet to the sun.
d. It has many large, active volcanoes.

- 9 The most important parameter of a telescope or a pair of binoculars is its:
a. diameter
b. magnification
c. length
d. mount

- 10 Name for four large moons of Jupiter that were first studied by Galileo in January 1610. These moons can be seen with a small telescope or steadily held binoculars.



Answers

- | | |
|----------------|---|
| 1 Sirius | 6 b, d, and e |
| 2 Orion | 7 in the US, it's known as the Big Dipper |
| 3 b | 8 b |
| 4 200 miles | 9 a |
| 5 The Pleiades | 10 Io, Europa, Ganymede, and Callisto |

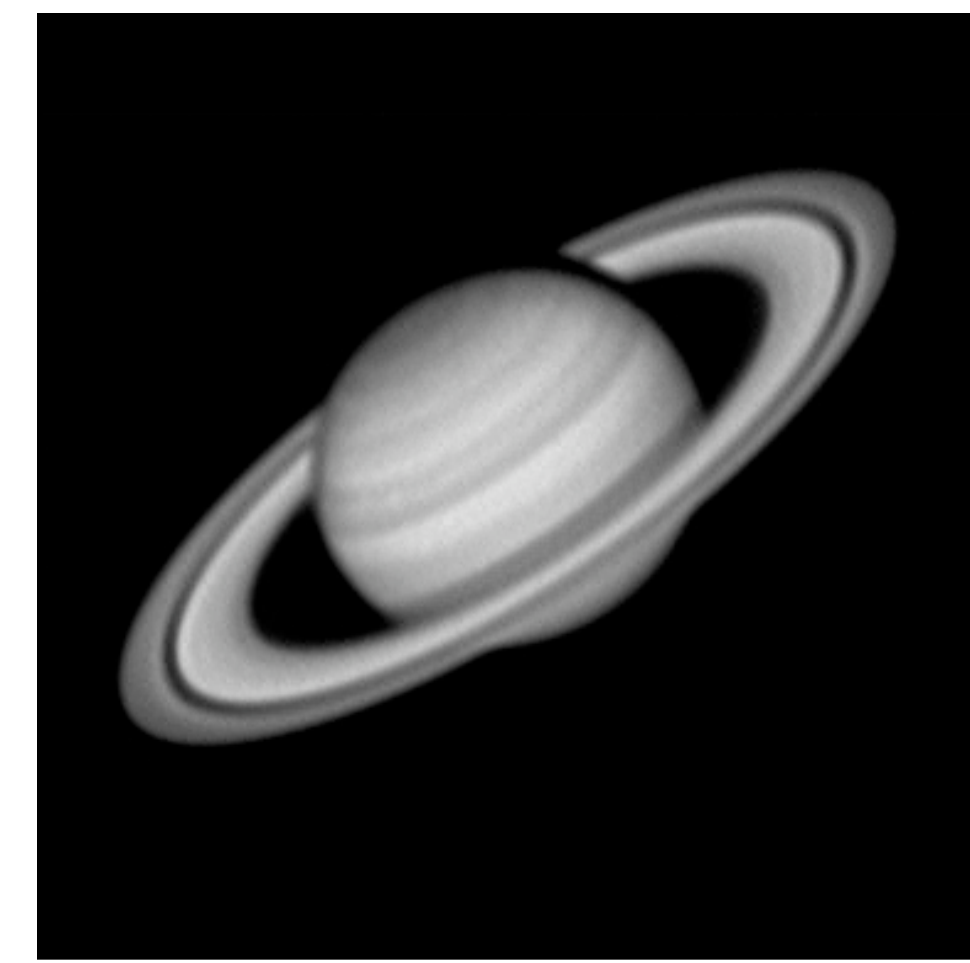


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Design: John Goss, Astronomical League

How is your knowledge of astronomy and stargazing?

Arrange these celestial objects in order of their distance from you.



Saturn

Image courtesy of Jim Melka, St. Louis Astronomical Society



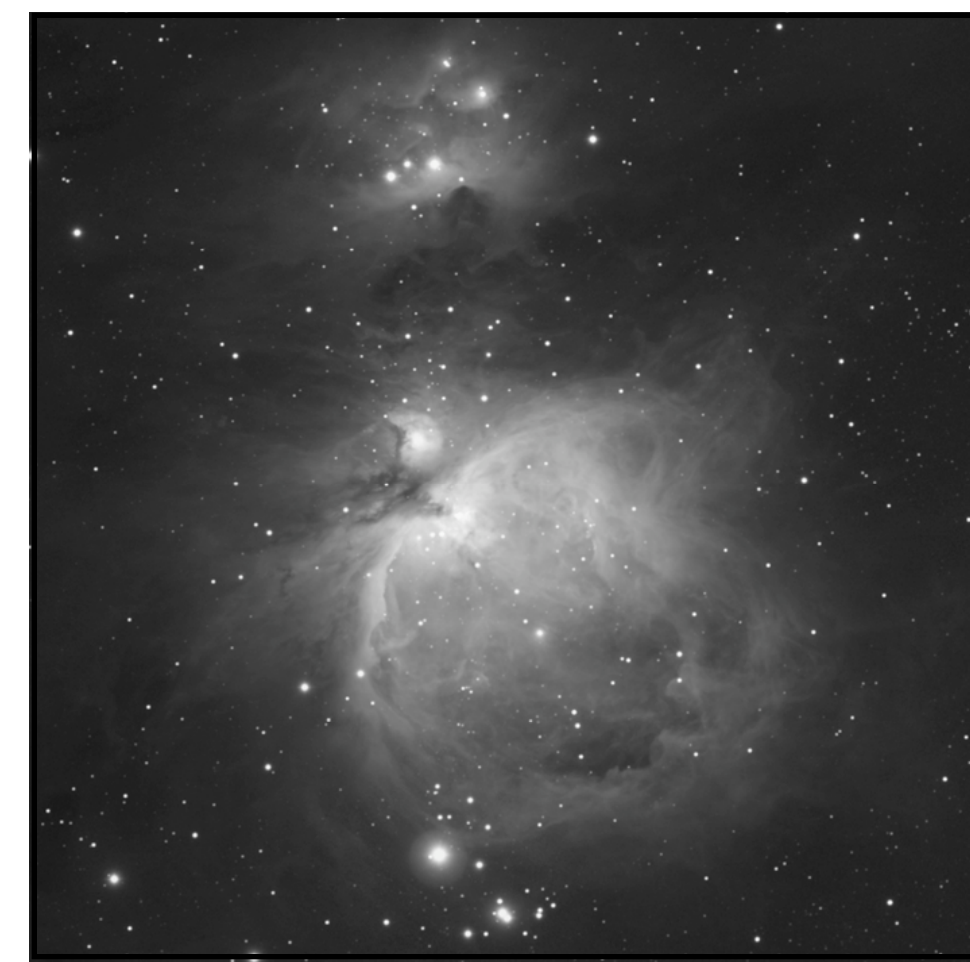
Galaxy: M51

Image courtesy of Brian Kimball, Longmont Astronomical Society



Our moon

Image courtesy of John Goss, Astronomical League



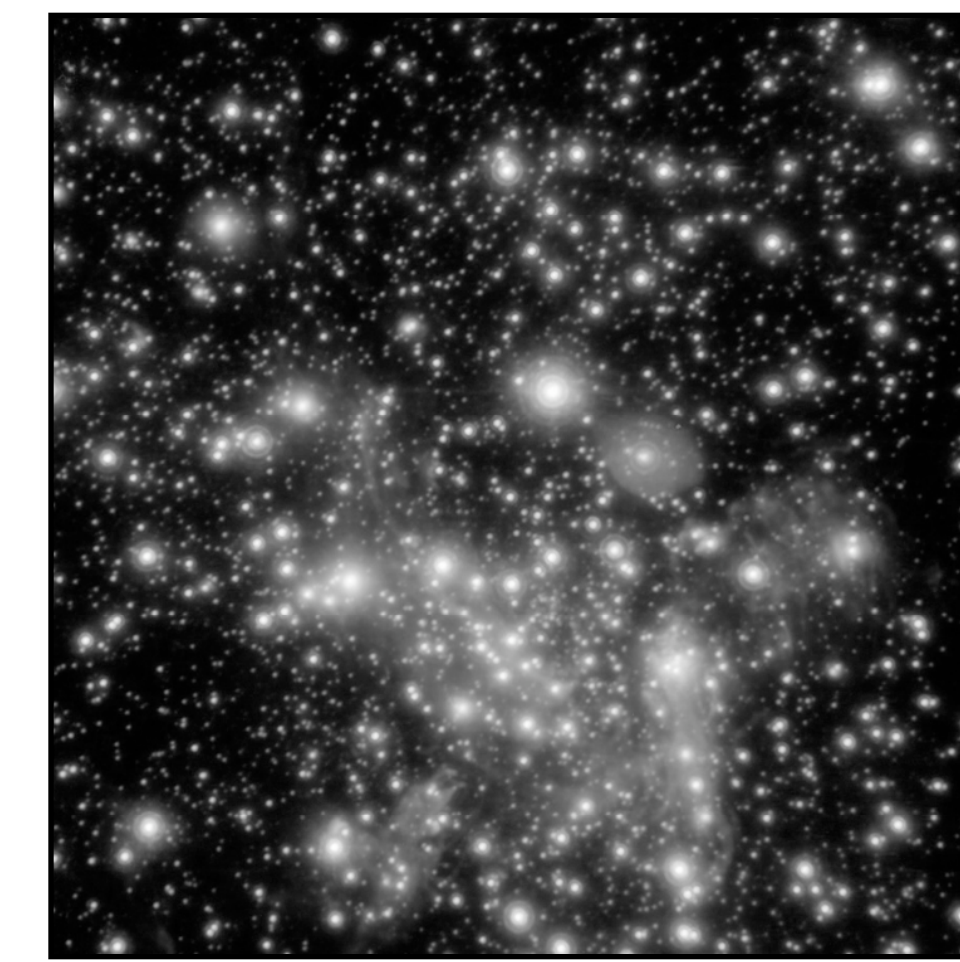
Orion Nebula

Image courtesy of Brian Kimball, Longmont Astronomical Society



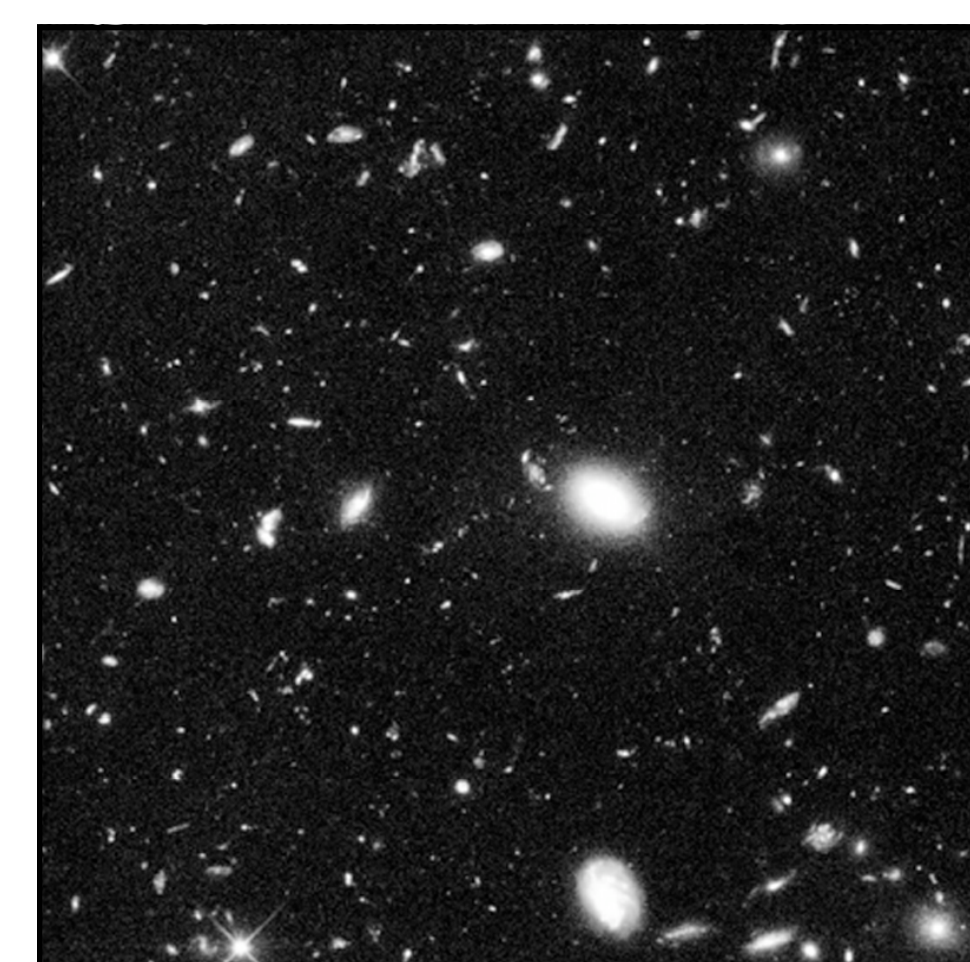
Jupiter

Image courtesy of James Sweeney, Delaware Valley Amateur Astronomers



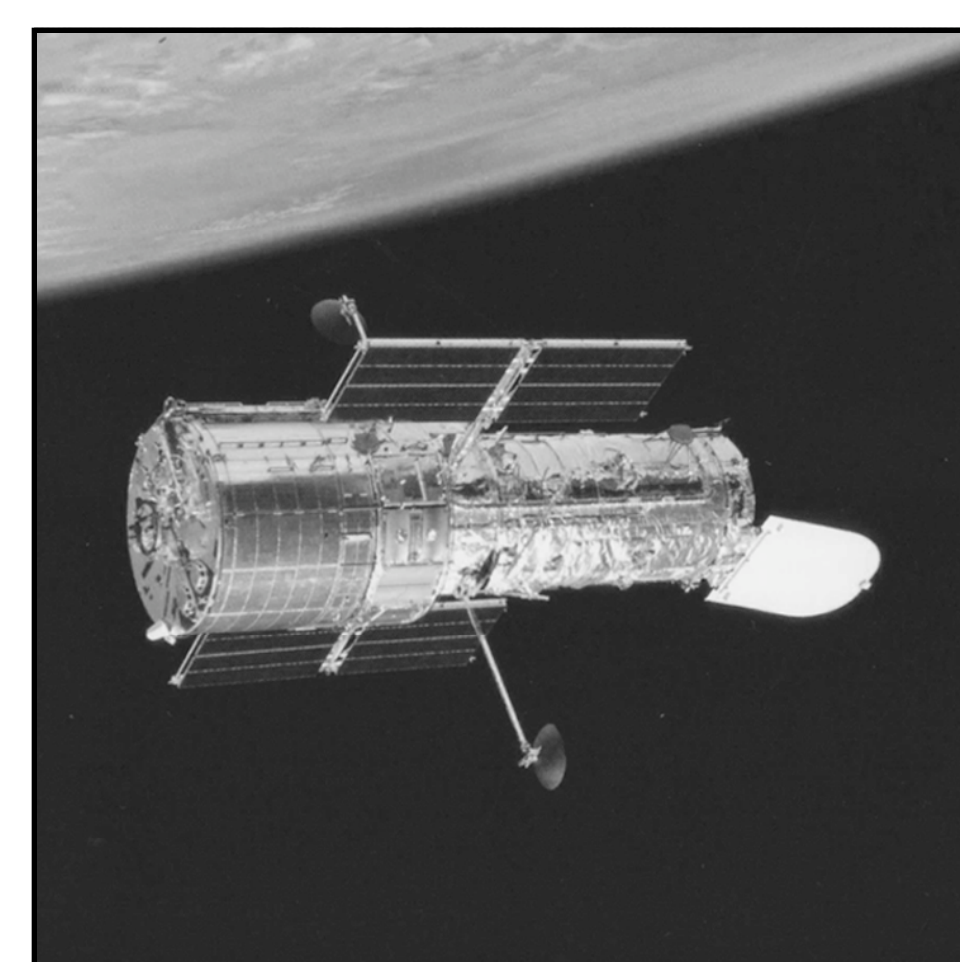
Center of the Milky Way Galaxy

Image courtesy of ESO



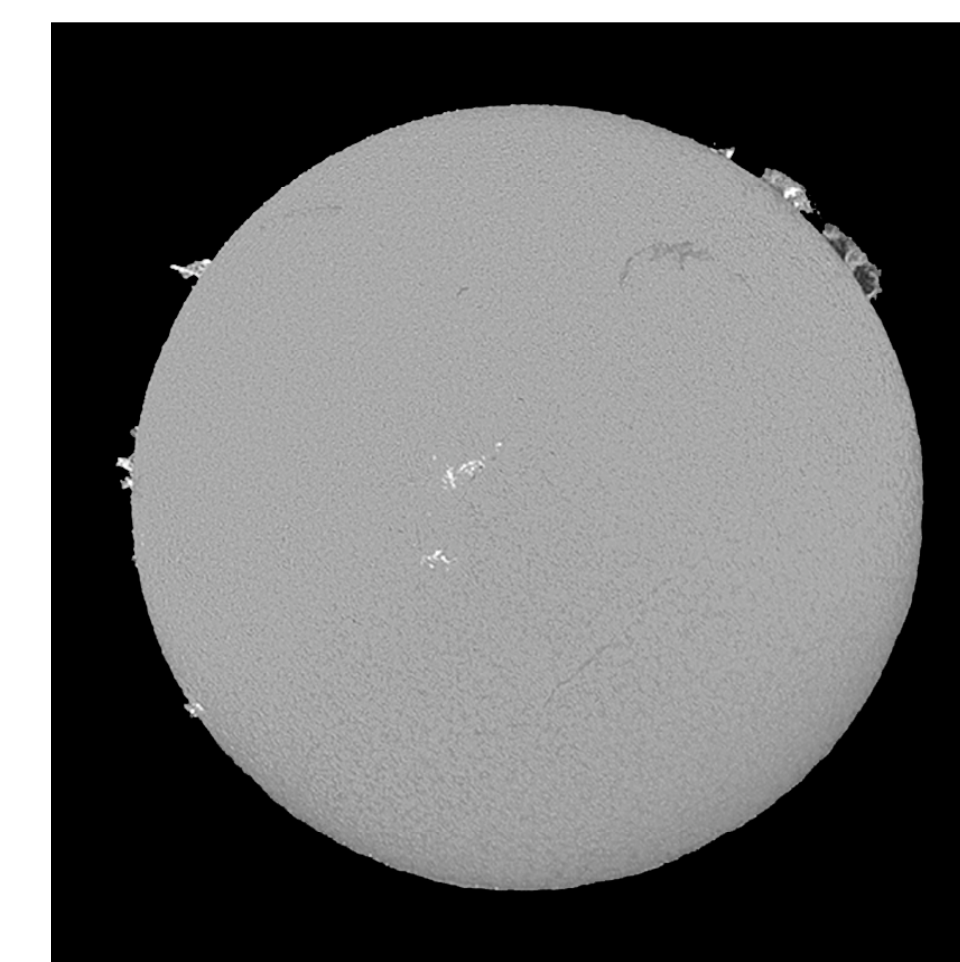
Galaxies revealed in the Hubble Deep Field

Image courtesy of NASA



Hubble Space Telescope

Image courtesy of NASA, ESO



The Sun

Image courtesy of Greg Piepol, Northern Virginia Astronomy Club

Answers

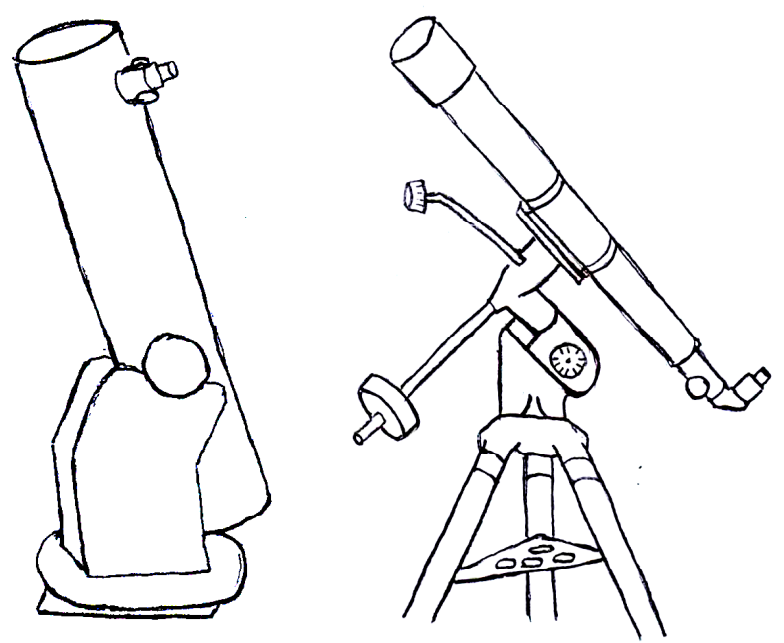
In order from our vantage point on Earth:

- Hubble Space Telescope — 200 miles
- Moon — 240,000 miles (= 1.5 light-seconds)
- Sun — 93 million miles (= 8 light-minutes)
- Jupiter — 450 million miles (= 45 light-minutes)
- Saturn — 900 million miles (= 0.0001 light-years)
- Orion Nebula — 1600 light-years
- Milky Way Center — 26,000 light-years
- M51, the Whirlpool Galaxy — 37 million light-years
- Hubble Deep Field — over 12 billion light-years



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- 11 Which telescope is a reflector and which is a refractor?



- 12 Generally, what planet appears brightest?

- 13 This term best describes what happens when the Earth passes through the orbit of a comet.
a. northern lights,
b. hail,
c. meteor shower

- 14 Which type of object is this? →
a. galaxy,
b. globular cluster,
c. planetary nebula

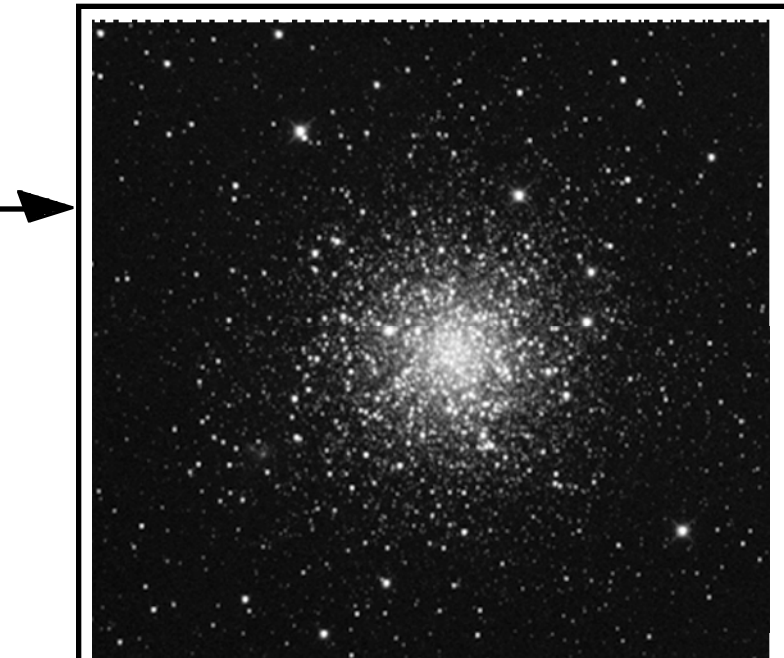


Image courtesy of Brian Kimball, Longmont Astronomical Society

- 15 The sun's annual path across the sky is called the ...
a. equator,
b. ecliptic,
c. Milky Way

- 16 When the moon is full, what time of day does it rise?



- 17 Which picture, left or right, depicts a first quarter moon as seen with the naked eye?

- 18 How many "full moons" can stretch from horizon to horizon?
a. less than 90
b. 180
c. 360

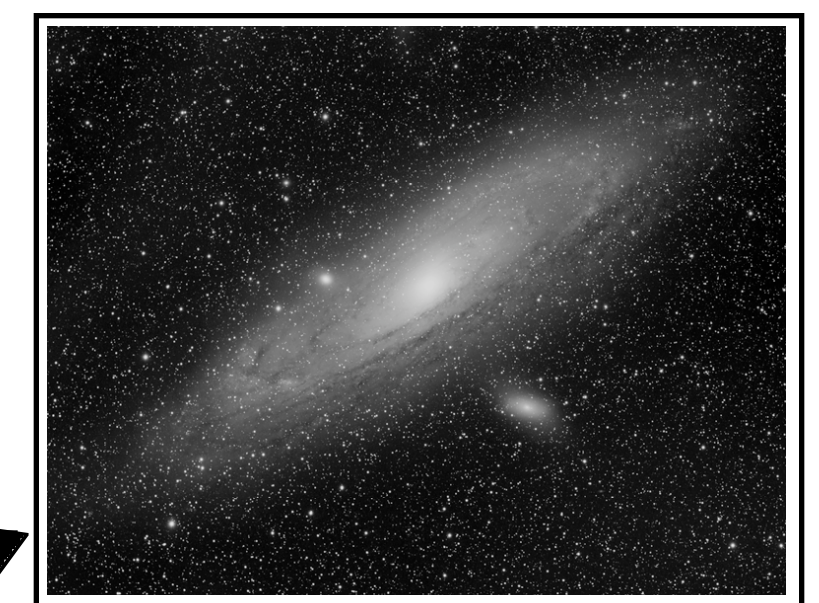


Image courtesy of Brian Kimball, Longmont Astronomical Society

- 19 What is the name of the closest large spiral galaxy to our own Milky Way? It can be seen with the unaided eye in the fall sky.

- 20 Match these types of nebulae with the appropriate picture:
1. Planetary Nebula (ejected gas shell from a dying star),
2. Star forming nebula (immense clouds of gas and dust),
3. Super nova remnant (rapidly expanding debris from an exploded star).



Images courtesy of Frank Colosimo, Blue Mountain Vista Observatories

Answers

- | | |
|----------------------|------------------------------|
| 11, Reflector — Left | 17, Right |
| Refractor — Right | |
| 12, Venus | 18, c |
| 13, c | 19, Andromeda Galaxy, or M31 |
| 14, b | 20, Planetary — Right |
| 15, b | Star Forming — Left |
| 16, sunset | Supernova remnant — Center |



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