

Senior Space Science Expert Badge

Information Cards p. 1

Cut out, match each card with their corresponding Photo Card, then sort!

*ly: A lightyear is a measure of distance--the distance light travels in one year, 5.9 trillion miles.

Diameter: 864,576 miles

Distance: 93 million miles

Age: 4.5 billion years

Location: The center of solar system.

- It is 25,000 to 28,000 ly from the center of the galaxy.
- It is a middle-sized, middle-aged star.
- It would take over a million Earths to fill a globe its size.
- Light takes 8 minutes to reach Earth from here.

Diameter: 0.14 of the Sun

Distance: 4.25 ly

Age: 4.85 billion years

Location: Closest star beyond the Sun.

- It is a red dwarf star orbited by an Earth-size planet.
- It is part of the three-star Alpha Centauri system.
- It is only visible through telescopes from the southern hemisphere of Earth.

Diameter: about 10 ly across

Distance: 444 ly on average

Age: ~100 million years

Location: In the constellation Taurus, the bull.

- They are known as the seven sisters.
- They are among the nearest star clusters to Earth.
- They are larger and hotter than the Sun.
- They are easy to find in winter skies, as they look like a tiny dipper.

Diameter: 1,480,000 miles

Distance: 8.6 ly

Age: 225 to 250 million years

Location: In the constellation Canis Major.

- It is the brightest star in the nighttime skies.
- It is visible in the winter.
- It is actually a double star: a bluish star, which is visible with the naked eye, and a white dwarf star—only visible through a telescope.

Diameter: 220,000 ly

Distance: 2.54 million ly

Age: 13.2 billion years

Location: In the constellation Andromeda.

- It is faint, but visible to the naked eye.
- It has about twice the number of stars as the Milky Way galaxy.
- It is the largest galaxy in the local group, which includes the Milky Way.

Key

LMC- Large Magellanic Cloud (a satellite galaxy of the Milky Way); **SMC-** Small Magellanic Cloud (dwarf galaxy near the Milky Way);

Light-Year (ly)- the distance light travels in one year. For this resource, all light-year (ly) measurements are approximate.

~ is a symbol that means approximately

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Information Cards p. 2

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* ly: A lightyear is a measure of distance--the distance light travels in one year, 5.9 trillion miles.

Diameter: 100 to 180 ly
Distance: 25,000 to 28,000 ly
Age: 13.2 billion years
Location: In the constellation Sagittarius.

- It is most easily seen in the summer from a dark location.
- The whole galaxy rotates around its center, where a supermassive black hole exists.

Diameter: 84 ly
Distance: 25,100 ly
Age: 11.65 billion years
Location: In the constellation Hercules.

- Barely visible to the naked eye, it can be seen through binoculars as a fuzzy ball, or through a telescope as a globe of stars.
- Among the oldest stars in the universe.

Diameter: the image covers an area about 1/10th the diameter of the Moon
Distance: the most distant objects observed
Age: oldest objects ever observed
Location: 10,000 galaxies in the constellation Fornax.
 • It was imaged by NASA's Hubble Space Telescope.
 • It revealed that there were 10 times as many galaxies in the Universe as previously understood.

Diameter: LMC= 14,000 ly and SMC = 7,000 ly
Distance: LMC = 160,000 ly and SMC = 200,000 ly
Age: ~13 billion years
Location: SMC is in the Tucana constellation. LMC is on the border of the constellations Dorado and Mensa.
 • Visible to the naked eye from the southern hemisphere of Earth.
 • Irregular dwarf galaxies that orbit the Milky Way Galaxy.

Diameter: 43,000 ly (large disk, M 51a)
Distance: ~23 million ly
Age: ~13 billion
Location: It is in the constellation Canes Venati.
 • It looks like a smudge through binoculars.
 • A telescope is required to see the system as interacting galaxies.

Key

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