

Exploring Sagittarius - Activities (Ages 8-11)



Today we are going to investigate:

- How to find the constellation Sagittarius
- The shapes traced out by the stars of Sagittarius
- What is the ecliptic
- A famous object in Sagittarius

Activities

- 1 Today we are going to look at a constellation of the Summer sky called Sagittarius. Use the Space Travel tab to set the time and date to an evening in a summer month. Sagittarius is a very large constellation but it is low in the sky. It represents a legendary being from Greek mythology. (Tip: Use Search if you cannot find it).

Question: What is this constellation meant to look like?

- a) Charging bull b) Centaur with a bow c) Warrior with a club

- 2 Go to Settings and turn off Show Glass Mythology to make it easier to see the stars of Sagittarius. The main stars of Sagittarius trace out a shape that reminds astronomers of a container for a drink. Shapes in the stars like this are called asterisms. Look at the stars of Sagittarius to see this asterism.

Question: What do you think this asterism is called??

- a) The Milk Jug b) The Thermos c) The Teapot

- 3 Go back to Settings and turn on Show Ecliptic Line. You will see a yellow dashed line appear in the sky. This is the **ecliptic**; the line that marks the path the Sun moves through over a year. You can see that it passes through part of Sagittarius. Follow the ecliptic around the sky to see which constellations it passes through. From ancient times there has been a collective name for the constellations on or close to the ecliptic.



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Question: What is the name for this ring of constellations?

- a) King's Ring b) Zodiac c) Planetary Loop

4 Take a look at Sagittarius and you will find a glowing cloud-like feature passing through it and extending around the sky. This is the galaxy we live in. It is called the Milky Way. The Milky Way is the shape of a flat disk with a bulge in the center. The Milky Way will appear brightest in the direction of this bulge.

Question: Look around the sky and identify where you think its center is located. What constellation is located in this direction?

5 A very famous object in this constellation is called Sagittarius A* (pronounced “Sagittarius A-star”). This is a supermassive black hole 4.5 million times as heavy as the Sun which is near the center of the Milky Way. The black hole cannot be seen with human eyes but it is located near the “spout” of the Teapot. Its position is marked with a red Sky Tag in the picture to the right. Find out more about this awesome object in the Information Tile for Sagittarius by tapping on  .

Question: Can you give reasons why we cannot see Sagittarius A* directly?



What we have discovered:

- Sagittarius is a large constellation in the summer sky
- Some of its stars form an asterism
- Sagittarius is located along the ecliptic
- The Milky Way passes through Sagittarius
- A supermassive black hole is located in this constellation

Well done!
You're a Night Sky
Superstar!