

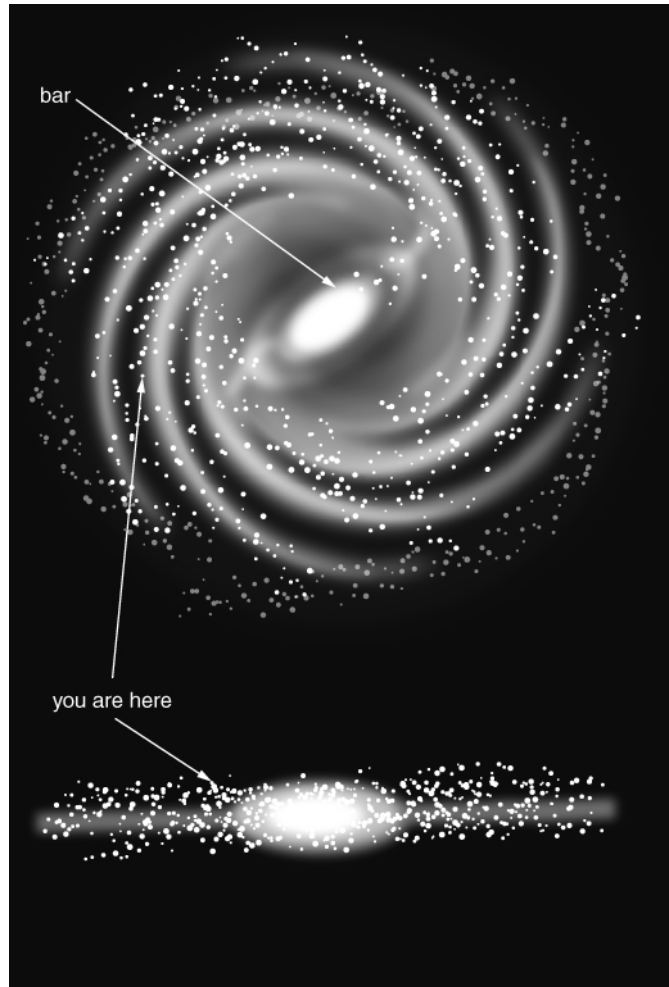
The Milky Way seems an odd name for a galaxy. Like many of the constellations, it was named by the ancient Greeks. If you look at the dark sky on a clear night, you can see a band of stars stretching across the sky. The Greeks had a story that this band was milk squirted from the breast of the goddess Hera – so they called it the Milky Way. This name is now used to mean the whole galaxy.

Astronomers think that the Milky Way is a barred spiral galaxy, as shown on the right.

But how do they know? Spacecraft from Earth have not even got as far as the nearest star. We might never be able to send a spacecraft far enough to look at our galaxy from the outside.

Astronomers can see other galaxies beyond the Milky Way. They have seen four different kinds of galaxy:

- spiral galaxies, some of which have bars in the middle, like the Milky Way
- elliptical galaxies, shaped like ellipses
- lenticular galaxies, shaped like lenses
- irregular galaxies, with no particular shape.



We think the Sun is in a spiral galaxy, and that when we look at the band of stars across the sky we are looking towards the centre of the galaxy.

Astronomers can also work out how far away different stars are, and the distances they measure show that the stars are arranged in arms, not just in one flat disc (as they would be in a lenticular galaxy).

- 1 Why is our galaxy called the Milky Way?
- 2 Why are there no photos of the whole of our galaxy?
- 3 a How many different shapes of galaxy are there?
b Sketch two different galaxy shapes and label them.
- 4 Do you think that astronomers with powerful telescopes can see all the stars in the Milky Way? Explain your answer.
- 5 Look at the diagram of the Milky Way. Use a diagram to help you to explain why we can see a band of stars across the sky on a clear night, with fewer stars visible outside the band.
- 6 Imagine that the Sun was in the middle of an elliptical galaxy. How would the night sky be different from the night sky we see now?

I can...

- describe the different types of galaxy
- explain how we know the shape of the Milky Way.