

Exploring The Milky Way - Activities (Ages 16-18)



Today we are going to investigate:

- What is the Milky Way
- Locating the Milky Way in the sky
- Where the centre of the Galaxy is in the sky
- The shape of the Milky Way

Activities

- 1 The Milky Way is a galaxy, a massive collection of stars, gas and dust all rotating around its centre. Open Night Sky, look at the sky and use your finger to move it around until you find a large cloud-like feature extending through the sky. This is the Milky Way Galaxy. Move your finger to explore the sky. You can see that the Milky Way appears to wrap completely around us, showing that the Earth is located inside it.

Question: From its appearance why do you think it is called the Milky Way?

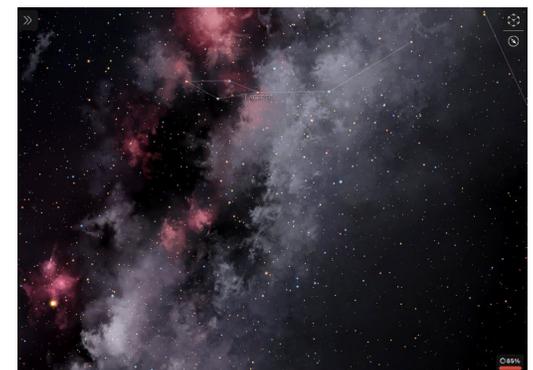
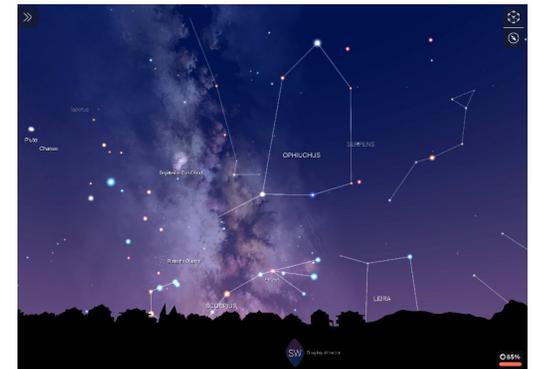
- 2 Explore Night Sky to find where the Milky Way appears most dense and brightest. This will mark the central area of the Galaxy.

Question: Identify three constellations that lie in the direction of the centre of the Milky Way.

- 3 Look for dark areas or lanes running through the Milky Way.

Question: What do you think these regions are?

- a) Clusters of black holes
- b) Areas where there are no stars
- c) Dust blocking starlight



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- 4 In the past it was hard for astronomers to determine the shape of the Milky Way by looking at it. This is because we are located inside it. Since the 1960s, astronomers have used radio telescopes to accurately map the Milky Way confirming that it is a **spiral galaxy**.

Question: Using the app's search function find the galaxies Messier 51, Messier 101 and Messier 105. Which of these are also spiral galaxies like the Milky Way?

- 5 The Sun is one of hundreds of billions of stars in the Milky Way. Every star we can see with our unaided eyes is also inside the Milky Way. The stars and all the clouds of gas and dust in the Milky Way are moving around the galaxy's centre.

Question: What force holds the galaxy together?

- a) Magnetic Force
- b) Nuclear Force
- c) Gravitational Force
- d) Electric Force



What we have discovered:

- The Milky Way is a galaxy
- How to recognise the Milky Way in the sky
- The Milky Way is a spiral galaxy
- How to locate the centre of the Galaxy in the sky