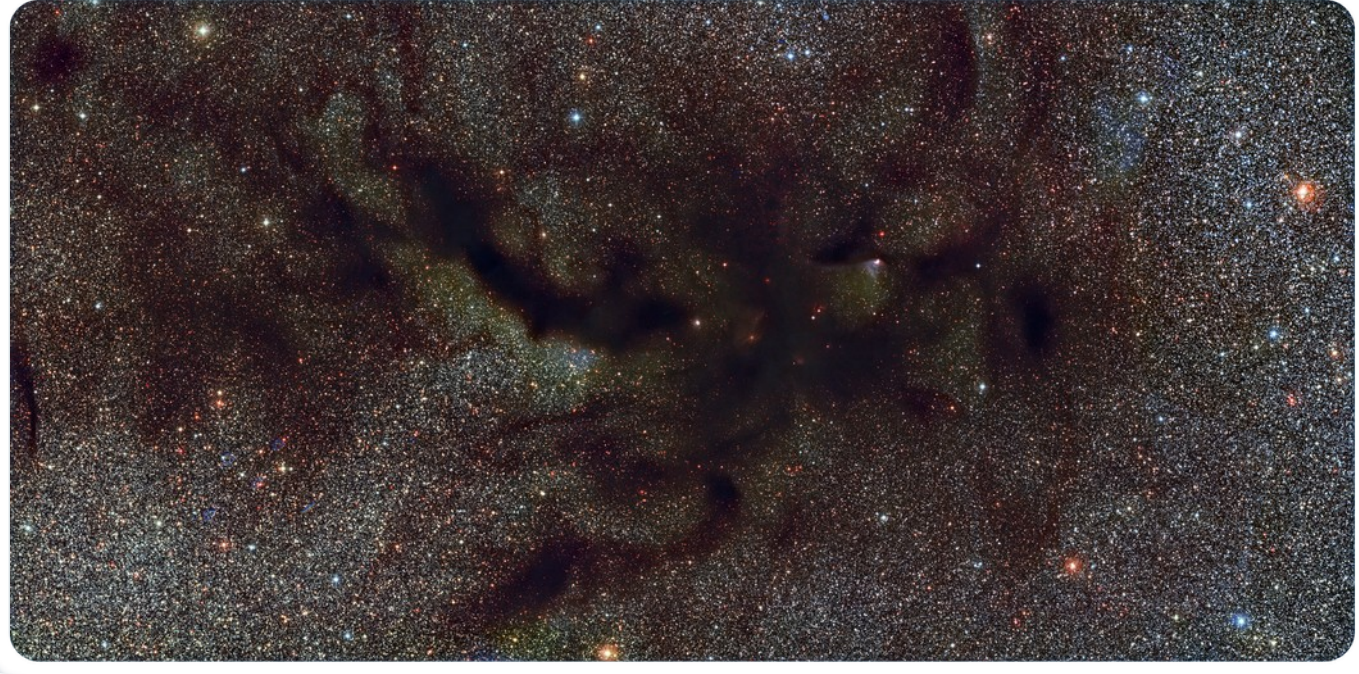




## Why is the Sky Dark at Night?



Sometimes, asking questions that sound very simple to answer can help scientists to understand important things about how the Universe works.

For example, why is the sky dark at night? It might seem obvious, but this question once had astronomers scratching their heads. They knew that the Earth faces away from the Sun at night. However, they also thought the Universe went on forever – that it was infinitely big. But if the Universe were infinite, then there would be stars covering every patch of the night sky and it would be very bright!

To understand why an infinitely big Universe means there would be stars covering the entire night sky, picture standing in the centre of a dense forest. Now turn and pick a random direction to walk along in a straight line. If the forest went on forever, no matter which direction you picked, you would expect to have a tree block your path eventually. The tree might be very far away, but it would be weird if there wasn't a single tree along your chosen path.

Coming back to the night sky, some astronomers originally thought that big clouds of dust, like the one shown in this new space photo, could hide enough light from some stars to keep the night sky dark. However, astronomers now know that the Universe isn't infinitely big after all. And this is why the night sky is dark.

So, the moral of the story is, never be afraid to put your hand up in class and ask a question. There are no silly questions! To be a good scientist, you have to keep asking questions about the world around you.

Get involved: There are lots of great websites where you can ask astronomers any questions that you have about the Universe. Here are some of our favourites:



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