

About Space

Fourth Edition

A We Both Read Book

Level 1–2

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University of California at Berkeley, for her review and recommendations
on the material in this book.*

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Image of Keck telescopes on page 36 courtesy of W. M. Keck Observatory.

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☞ Let's take a journey into space, where we will see wondrous sights and make incredible discoveries.

What is space? Space is the **universe**. The **universe** contains everything—including all the stars and planets and all the empty expanses in between them.



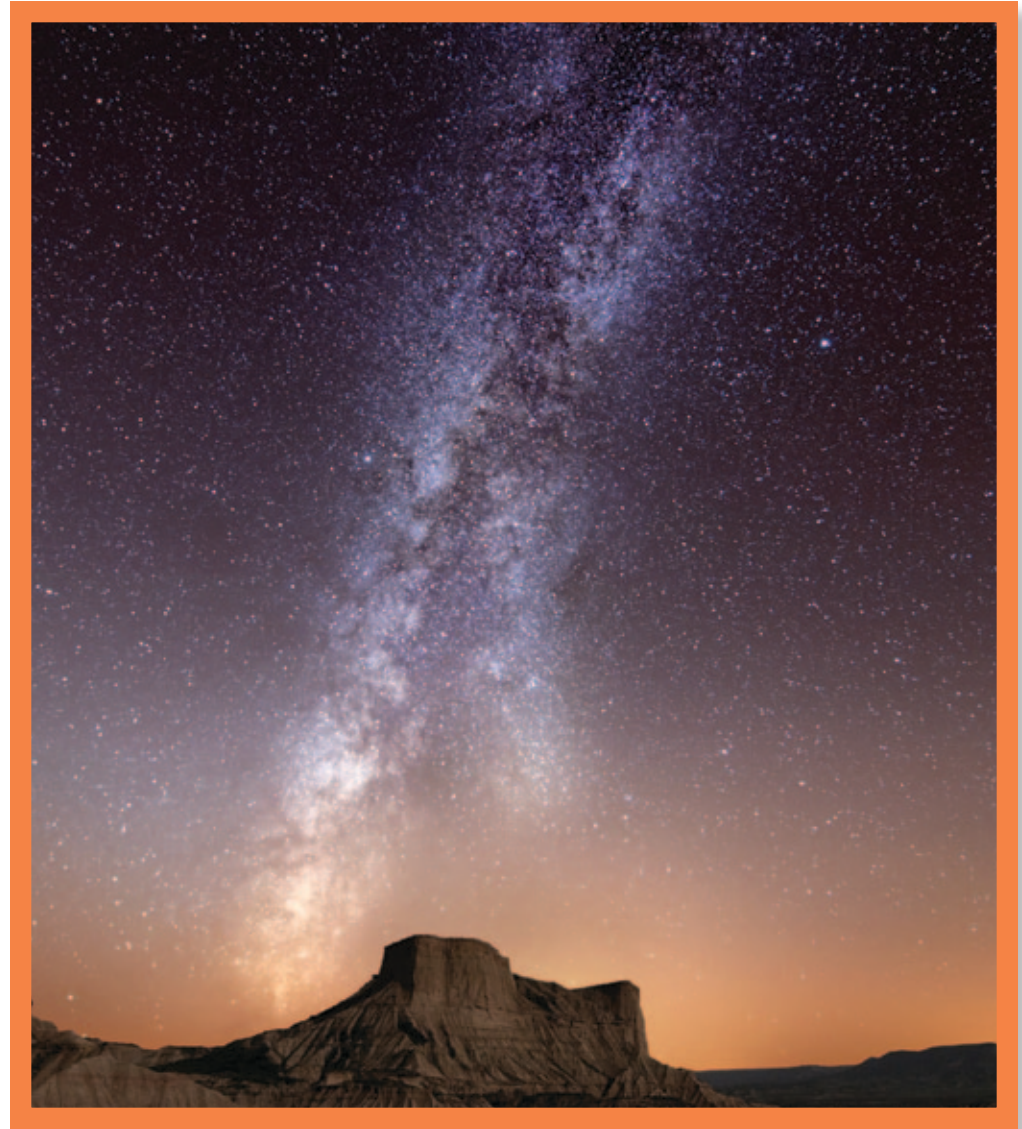
☞ Have you ever looked up at the sky? It seems so big and there are so many stars! Yet what we see in our sky is only a very tiny part of the **universe**.

Orion Nebula, a huge expanse of dust and gas in our galaxy where many new stars are being created



- ☞ A galaxy is a large system of stars held together in a group by gravity. We are in a galaxy called the **Milky Way**, and the stars that we are able to see in our night sky are part of our galaxy. We can see many more of the stars in our galaxy through the use of a telescope.

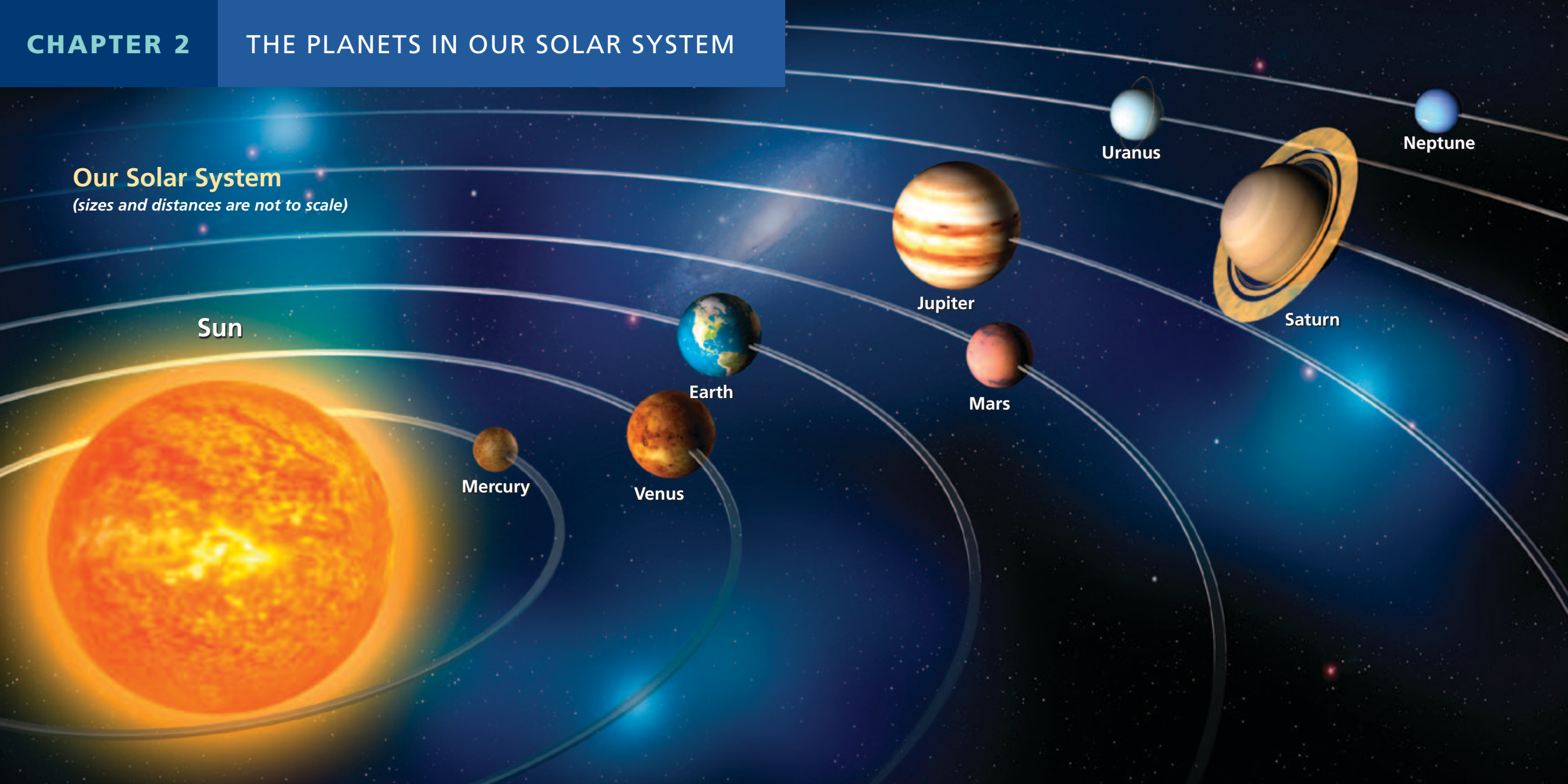
Milky Way galaxy



- ☞ Long ago, people could only look at the stars with their eyes. Most of the stars of the **Milky Way** just looked like a white streak in the sky.

Our Solar System

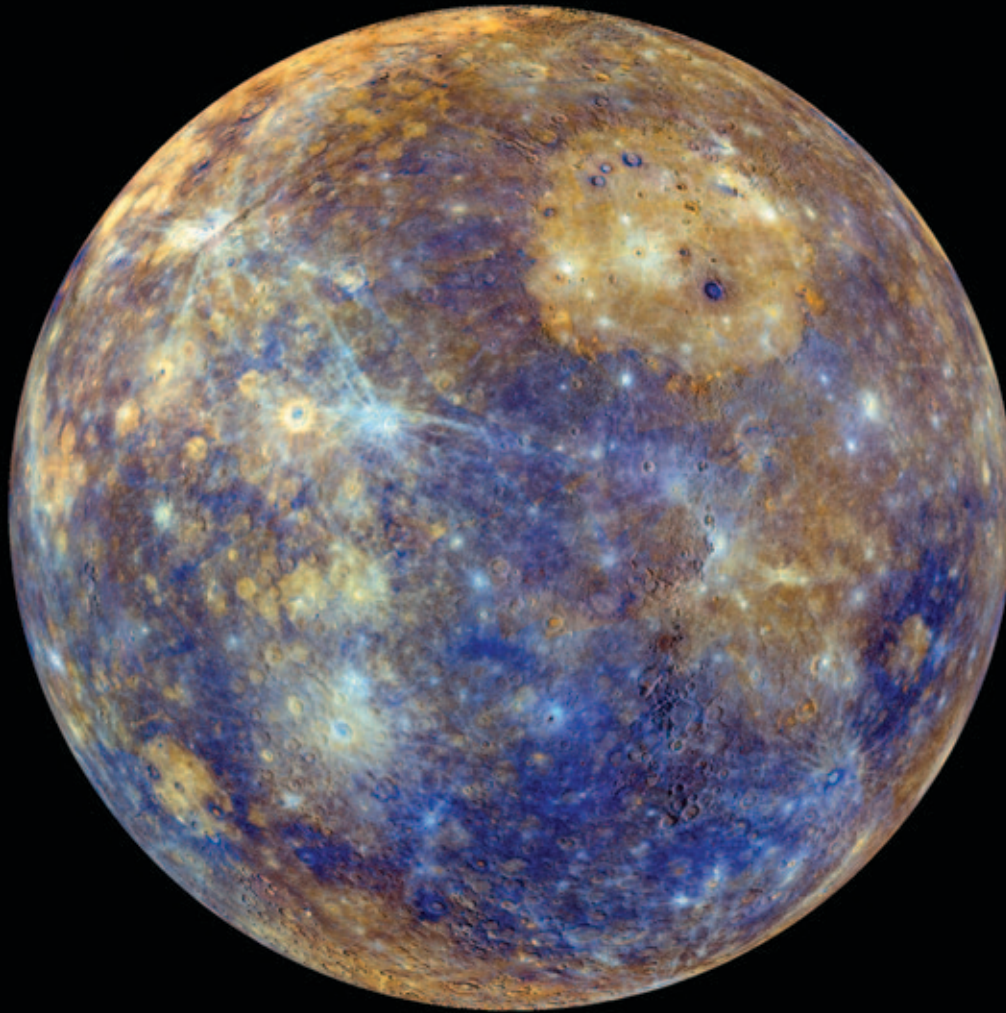
(sizes and distances are not to scale)



☾ Within a galaxy there may be many **solar systems**. A **solar system** is made up of a sun and everything that moves around it. Our **solar system** exists within the Milky Way galaxy. It includes all the planets and their moons as well as the comets, asteroids, and space objects that orbit, or move in circles, around our sun.

☾ A star with planets around it is called a sun. There is a sun at the center of every **solar system**. Without our sun, there could be no life in our **solar system**.

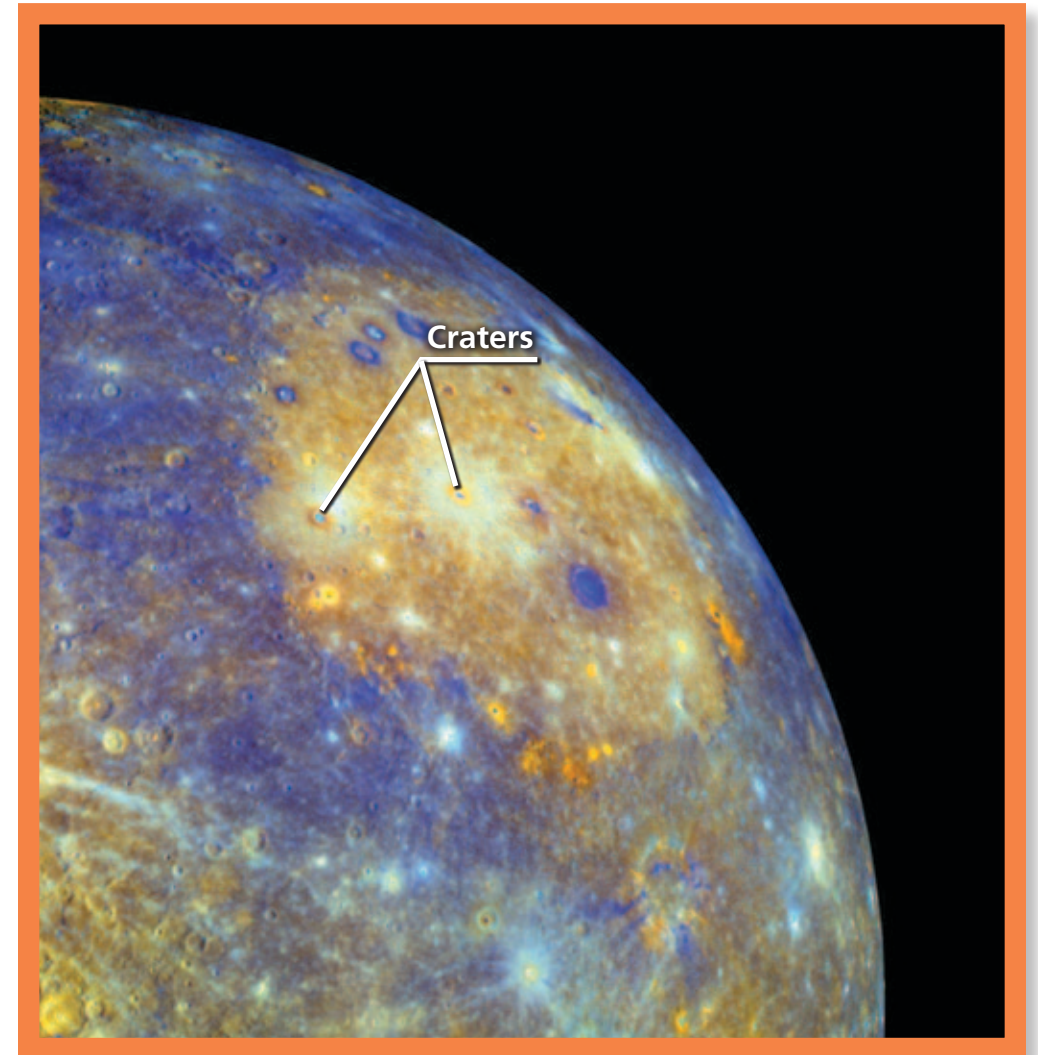
Planet Mercury (Colors are not accurate but show the different types of rocks on the surface.)



☾ The planet we live on is called Earth. As far as we know, it is the only planet in our solar system that has life on it. Other planets in our solar system are **Mercury**, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune.

Mercury is the closest planet to our sun. The temperature on the planet's **surface** is hot enough to melt a tin pan.

Closer view of Mercury showing craters and the great Caloris basin (large tan area)



☾ **Mercury** is much smaller than our planet. There is no water or air on the **surface** of Mercury, and it is very hot.

The surface of Mercury looks a lot like our moon. There are many craters.