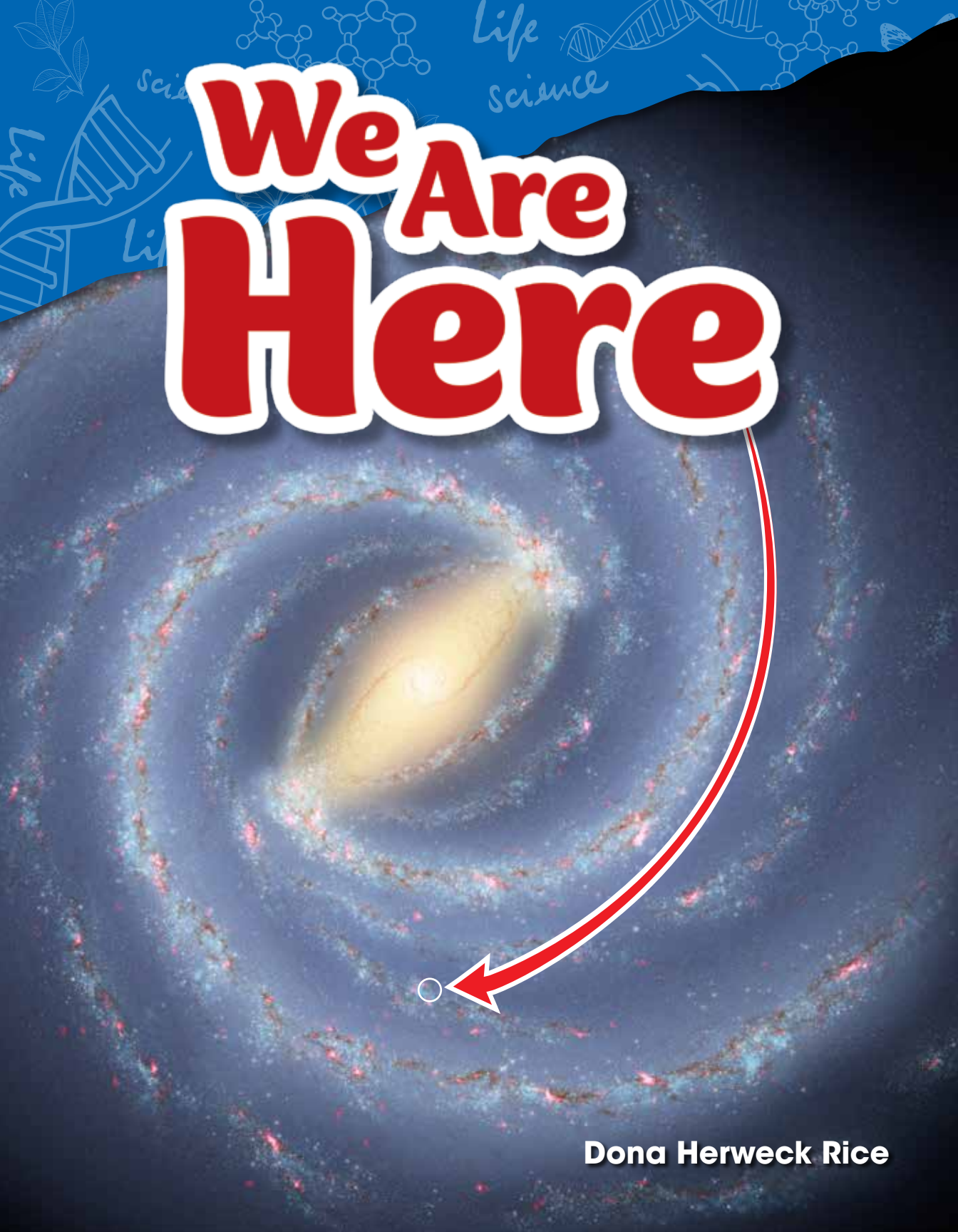
We Are Here



Dona Herweck Rice

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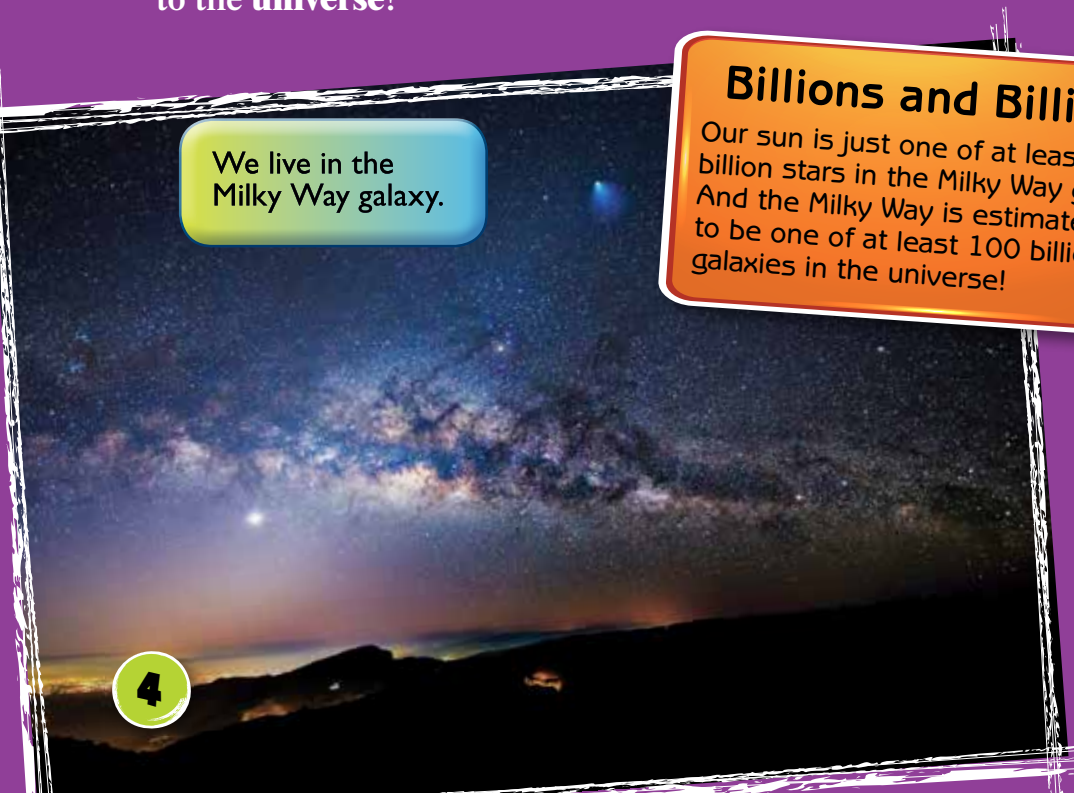
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Who in the World?

In the world of Dr. Seuss, all the tiny Whos live in Whoville. Whoville lies deep within a dust speck resting on a small flower on planet Earth. Imagine what the Whos would think if they had any idea of the size of the world beyond their own! Imagine what it might be like to be just a tiny speck *on* a speck, smaller than the eye can see. The Whos only know their world. But there's more than they can imagine beyond where they can see.

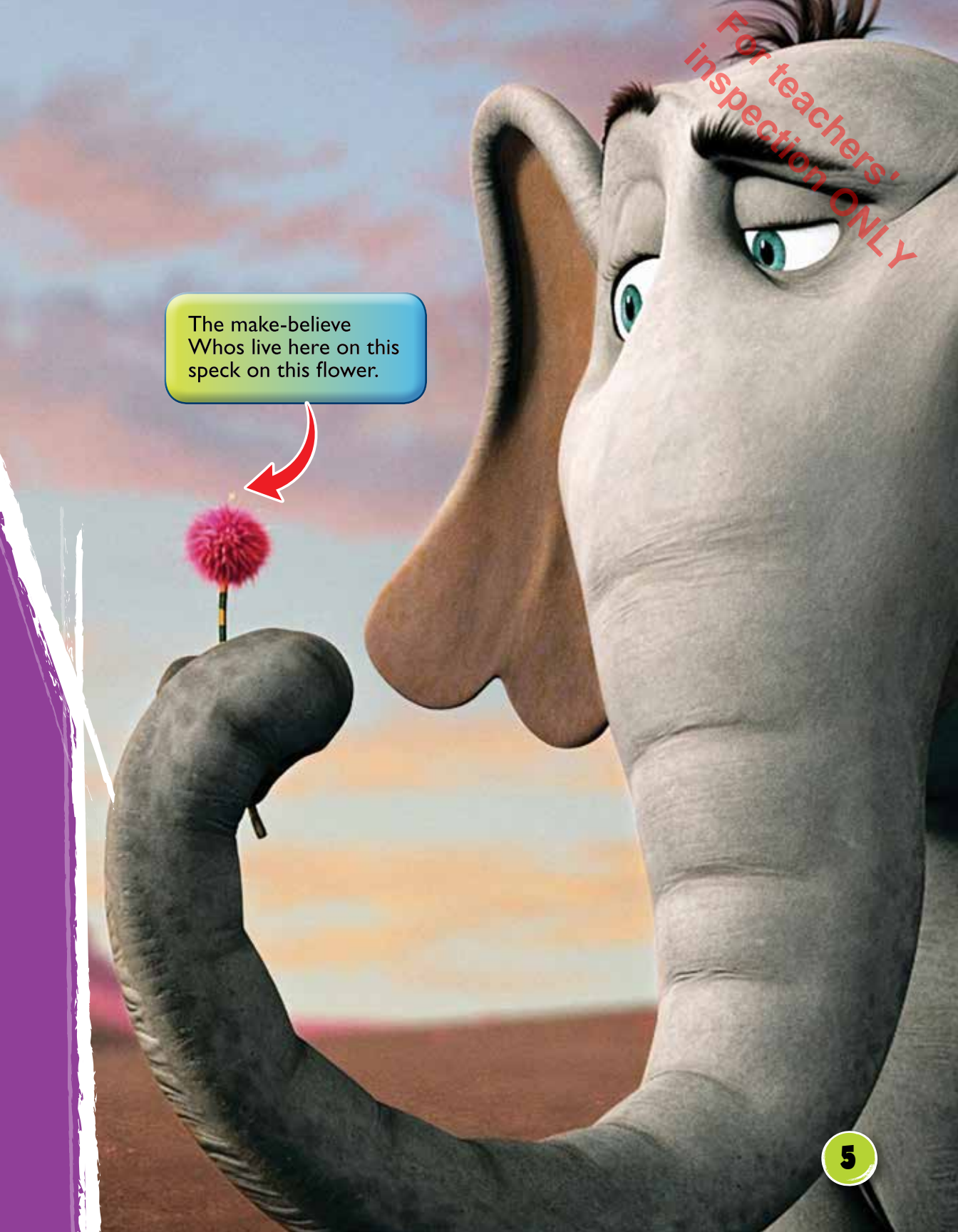
The truth is, a Who's world view is not much different from our view here on Earth. In fact, even compared to just our galaxy, we're a lot smaller than any Who. Imagine what we look like compared to the **universe**!



We live in the Milky Way galaxy.

Billions and Billions

Our sun is just one of at least 200 billion stars in the Milky Way galaxy. And the Milky Way is estimated to be one of at least 100 billion galaxies in the universe!



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How Big Is Space?

We all know that space is big. But just how big is it?

Do you remember Buzz Lightyear calling out, "To **infinity** and beyond"? He was right. Space is infinite! Scientists think there aren't any borders to space. And the universe is **expanding** all the time.

Everything in the world you see around you has a beginning and an end. Look at your big toe. It only takes up so much space. Your body has skin to mark its limits. Earth is about 40,000 kilometers (25,000 miles) around its middle. The distance between Earth and the sun is about 150 million km (93 million mi.). But the distance from the sun to the edge of the universe? Let's just say you can't get there. Ever. There is no "there" there. Space goes on forever and ever and ever and ever and ever and…you get the idea.



It takes 8 minutes and 20 seconds for light to reach Earth from the sun.

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Scientists say that the entire universe once existed in a tiny, single point in space.



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Our Little Corner of the Universe

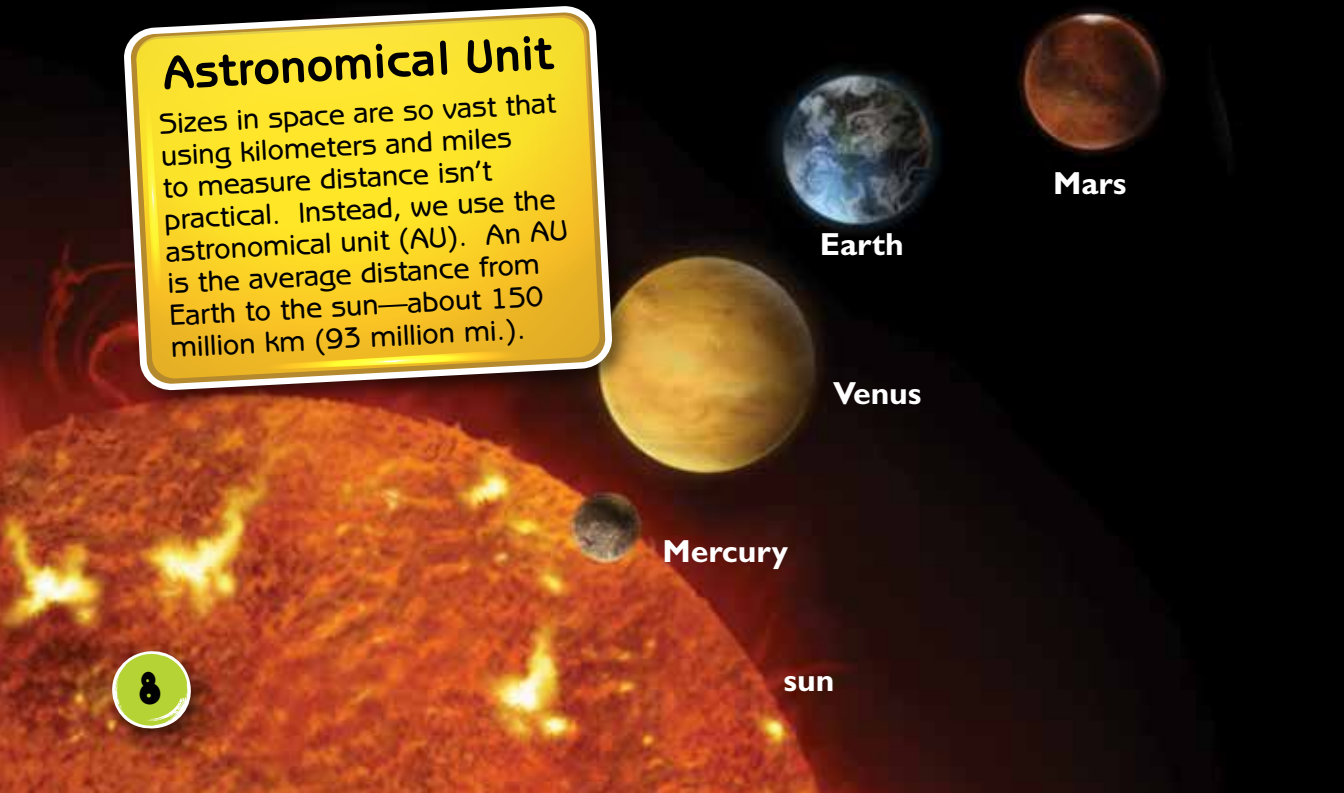
The space that we know best is the space closest to home. It's our own solar system.

Our solar system has eight planets. They **revolve** around our sun. There are also many moons that **orbit** the planets. **Dwarf planets**, such as Pluto and Eris, orbit the sun, too.

Eris is the dwarf planet farthest from the sun. It's about 68 AUs from the sun. Do the math! That means it's over 10 billion km (6 billion mi.) away. But as far away as Eris is, it doesn't even come close to the edge of our own solar system.

Astronomical Unit

Sizes in space are so vast that using kilometers and miles to measure distance isn't practical. Instead, we use the astronomical unit (AU). An AU is the average distance from Earth to the sun—about 150 million km (93 million mi.).



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Galactic Mnemonic

Use the first letter of each planet to help remember them in order. **M**ercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus, and **N**eptune can become something like "**M**y **v**ery **e**ager **m**other **j**ust **s**erved **u**s **n**achos!"



Neptune



Uranus



Saturn



Jupiter

Pluto was once thought of as the ninth planet. When the larger Eris was discovered, Pluto was reclassified as a dwarf planet.

Our solar system includes everything within the sun's **gravity**. Gravity is a force that pulls. Earth moves through space at super-fast speeds. But we stick to its surface. We don't fly off or fall over like you might think we would. That's because of gravity. Everything in our solar system is there because of gravity from our massive sun.

Think Like a Scientist

How big is our solar system? Experiment and find out!

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What to Get

- 1 large yellow bead
- 7 meters (7.7 yards) of string
- 8 small beads of different colors
- meter stick
- scissors

