

An essay by

You Are Stardust

author Elin Kelsey



Electricity stronger than lightning powers your every thought, even on those mornings when it's hard to remember where you left your keys! Whether you're stuck in traffic with cranky kids or wrestling a frozen zipper on a winter coat, the simple fact is that you, me, your little one, the teen down the street — we are all nature. Every tiny atom in our bodies came from stars that exploded long before we were born.

The examples in *You Are Stardust* are based on current science, and I hope they spark lots of lively discussion. But please don't worry if you can't explain all the concepts.

The goal of the book is to inspire those magical, exploratory conversations that happen when life pauses for a moment and you find yourself curled up with your little one, sharing a book rich with ideas.

Lots of parents, teachers, librarians, and scientists are concerned that children are becoming disconnected from nature. Significant life experiences (SLE) research emphasizes how important early childhood is as a time to form deep connections with the natural world. Each time you stop to watch a bug make its way across a city sidewalk you reinforce the magical ties we share with other species.

We hear lots of reports about how kids are too wired up and tuning out, but I remain quite hopeful. As an environmental consultant, I travel all over the world, and I continue to see kids and adults forging meaningful connections to the planet, whether in highly industrialized or impoverished or affluent or wild places. Recently, I had the extraordinary experience of leading writing workshops for high school kids, some who had never been outside New York City, in Antarctica, among 750,000 Adele penguins. They loved being immersed in nature and off their cell phones.

I wrote *You Are Stardust* because I didn't just want to tell kids they are part of nature. I wanted to show them in a more personal way, by linking what happens in their own bodies to what happens in the sky, the ocean, the forests, and to other animals. I became intrigued with the science of growth spurts when my own kids were little and would wake up with their pajamas shorter than when they went to bed. It turns out long bones in legs only grow when kids are sleeping or resting: they really do experience growing pains at night! Almost all of the research on growth spurts has been done on sheep, and that's what inspired the playful link between counting sheep and growth spurts in the book.



I have written science and nature books for kids for years, but this is my first picture book. I loved the challenge of distilling complex scientific concepts into evocative statements. When I wrote: "Be still. Listen. Like you the Earth breathes," I was thinking about the fact that oxygen enters your lungs and leaves your body as carbon dioxide. Each spring and summer, plants all over the planet take in that carbon dioxide. They use it to create energy from the Sun. They use it to grow glorious flowers and brilliant emerald leaves. They give off the oxygen you breathe in return. In the fall and winter, that process slows dramatically for some plants and stops altogether for others. That leaves more carbon dioxide in the air. Satellites and computer models help scientists chart how the amount of carbon dioxide and other gases moves between the Earth and the atmosphere beyond. They watch the Earth breathe.

And the line about electricity stronger than lightning powering your every thought? Lightning strikes the ground with enough energy to light 150,000,000 lightbulbs. So why don't you walk around with an enormous headache? All that electricity resides within your millions of teeny tiny brain cells (called neurons), where it's harmless. The incredibly thin outer membranes of each cell create very high electric fields. They keep in what a cell wants and keep out what it doesn't. Without electric fields, a cell is dead. But with them, cells can fire super-fast signals to each other, giving you the power to think big thoughts, do brave deeds, and remember to take out the recycling!

The other day, I read *You Are Stardust* to a third grade class and then asked them to write a short piece to the prompt: I am (insert name). I am Nature. My daughter and I had collected clippings from plants on our short walk to school, and I invited the kids to use them to create self-portraits. Scissors. White glue. Recycled paper. No other preparation. No further explanations needed. They felt the connections and made them their own.



You Are Stardust is a celebration. I hope you will share it with the people you love.

~ Elin