Sharing the Sky

**A Parent's and Teacher's
Guide to Astronomy**

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To the teachers and staff who participated in Project ARTIST. Their willingness to learn and their dedication to teach will increase the understanding of the universe and the appreciation of the sky for future generations.

Preface

A Sky Above, a Child Below

Picture a clear, warm evening, a quiet backyard, and a 10-year-old girl looking up at the stars. Does anyone live up there, she wonders. Who inhabits those majestic worlds? Probably creatures I can only dream of. How can I find out more about them?

As teachers and parents, we cannot give this child a complete response. No, Virginia, we do not know what fabulous creatures might live up there. But we can tell her, and thousands of other curious young children, about the night sky with its wondrous constellations and a multitude of suns and worlds.

Unlike the distant countries and lands we learn about in geography class, the sky is easy to find. Even from the middle of a big city, the brightest stars and planets and the Moon can be found on a clear evening; at least some sky should be available to virtually any child. The stories, history, and interesting sky-related facts could fill many a classroom hour.

For some reason, the sky has had a problem finding its way into school curricula. Even in this technological age of computers

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and video, where the latest pictures taken by the Hubble Space Telescope can be sent over the Internet directly into a classroom, most school districts do not encourage an activity as simple as looking at the sky.

The three of us who wrote this book come from different

A youngster's first taste of astronomy could be as simple as this look at the Moon. Photo by David Levy, courtesy Green Acres Day Camp.

backgrounds. David Levy has been an amateur astronomer for 35 years and brings a familiarity and sense of the night sky to his work with young children. He has discovered eight comets from his backyard and shared in the finds of 13 others with Gene and Carolyn Shoemaker. One of these comets, Shoemaker–Levy 9, struck Jupiter in 1994.

A professional astronomer, Larry Lebofsky studies asteroids, the solar system's smaller objects, found mostly between Mars and Jupiter. Nancy Lebofsky is a professional educator with experience organizing workshops for teachers. One day Nancy visited a classroom at her daughter's school and noticed a wall display showing phases of the Moon marked as half, full, and "gibbons."

Larry and Nancy Lebofsky show students the Sun, safely! Photo by David Levy.

She and Larry discussed the implications of this error. Why was he studying remote asteroids, Larry wondered, when his daughter's school needed an explanation of what a gibbous Moon was? The Lebofskys decided to create a program through which teachers of young children could learn about astronomy and how to teach it.

We all share the basic idea that the sky should be presented simply and directly to as many young people as possible. An opportunity for this came after the 1994 comet impacts on Jupiter—an event that sparked so much interest that for a week almost

David Levy demonstrates the use of a telescope to a group of young children. Left to right: Teresa Fish, Doug Fish, David Levy, Andrew Roche, and Jerry Roche.

everyone was an amateur astronomer. Thousands were looking through telescopes at a planet scarred with the darkest features seen since the invention of the telescope. It was a golden opportunity to foster an awareness of the night sky. Now we should try to build on that wonderful week and pass on to the next generation a sense of excitement about the sky and all that it offers. Then we can follow the words of Horace, who hoped that with our heads exalted, we would touch the stars.

The sight of day and night, the months and returning years, the equinoxes and solstices, has caused the invention of numbers, given us the notion of time, and made us inquire into the nature of the universe; thence we have derived philosophy, the greatest gift the gods have ever given or will give to mortals. This is what I call the greatest good our eyes give us.
—Plato

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The following activities have been adapted from previously published ARTIST materials: Stained Glass Sun Symbols, Bear Hunt (*Science Scope Magazine*, 1994, 1997); Sun Symbols, Venus

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Topography Box (*The Universe at Your Fingertips*, Project ASTRO, Astronomical Society of the Pacific, 1995); Magpies and the Milky Way, and Constellation Viewers (*Creative Childhood Experiences: Integrating Science and Math through Projects, Activities, and Centers*, 1997)

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