

New free e-Books available about two famous NASA space telescopes

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Covers of the Hubble iBook "Discoveries" and the James Webb Space Telescope iBook "Science Guide." Credit: STScI

NASA's Hubble Space Telescope has been providing amazing images of the universe since April 1990 and has led to remarkable discoveries. NASA's James Webb Space Telescope is the next-generation telescope that will peer even deeper into space and unveil even more mysteries. Both of these extraordinary telescopes are now the topics of two free e-Books available from the Apple iBookstore.

The books are written on a high-school level and can be viewed using iPads with the free iBooks app. Because they're about two NASA space telescopes, the Hubble and its successor, the Webb, the books complement each other.

"These new e-books from NASA will allow people to discover Hubble and Webb in a whole new way—both the science and the technology behind building them," said Amber Straughn, astrophysicist on the Webb telescope project at NASA's Goddard Space Flight Center in Greenbelt, Md. "They collect all of the amazing resources about these two observatories in an

excellent product that I think people will really enjoy."

The e-books are highly interactive and include image galleries and video. Tracy Vogel of the [Space Telescope Science Institute](#) in Baltimore, Md., is part of the design team that put them together. "For instance, the readers can watch a galaxy collision simulation video, manipulate a telescope model to see it from all angles, or flip through a gallery of planetary nebulae—all right there on the page," Vogel said.

The book "[Hubble Space Telescope: Discoveries](#)" takes the reader on a tour of Hubble's most significant science successes, combined with some of the telescope's technology and history. For more than two decades, Hubble has had a front-row seat for cosmic events: comets bombarding Jupiter, the explosive death of stars, the birth of new solar systems and more. It helped reveal the age of the universe and stunned scientists with the discovery of the still-mysterious dark energy. The book details Hubble's work in cosmology, planetary science and galactic science. Interactive elements include a gallery of images taken by Hubble's different instruments, an interactive showing how astronomers measure distance in space, and a short movie on the discovery of planet Fomalhaut b.

In the e-book called "[James Webb Space Telescope: Science Guide](#)," readers will learn how the Webb telescope will reveal in much more detail mysteries of the universe that the Hubble is not able to see. With a mirror almost seven times the area of the Hubble Space Telescope's, and an orbit far beyond Earth's moon, Hubble's successor will utilize infrared light to see the first galaxies being born in the very distant universe, penetrate clouds of dust to reveal newly forming stars and solar systems, and analyze planets around other stars for traces of potentially life-giving water. The Webb book explains the innovative technology and design

making the Webb a reality. Among the interactive elements are images that transform as they're seen in different wavelengths of light, a simulation of the formation of the "cosmic web" in the early universe, a 3-D fly-by interactive, and an animation of the Webb telescope unfolding in space as it nears its orbit.

More information: Information about how to download the books, as well as PDF versions, is available at: hubblesite.org/ibooks/

Provided by NASA's Goddard Space Flight Center

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