



By Shopper Editor Dave Bunting

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Webb's First Deep Field SMACS 0723

First Images from the James Webb Space Telescope

The dawn of a new era in astronomy has begun as the world gets its first look at the full capabilities of NASA's James Webb Space Telescope, a partnership with ESA (European Space Agency) and CSA (Canadian Space Agency). The telescope's first full-color images and spectroscopic data were released during a televised broadcast at 10:30 a.m. EDT (14:30 UTC) on Tuesday, July 12, 2022, from NASA's Goddard Space Flight Center in Greenbelt, Maryland. These targets below represent the first wave of full-color scientific images and spectra the observatory has gathered, and the official beginning of Webb's general science operations. They were selected by an international committee of representatives from NASA, ESA, CSA, and the Space Telescope Science Institute.

These first images from the world's largest and most powerful space telescope demonstrate Webb at its full power, ready to begin its mission to unfold the infrared universe.

Webb's First Deep Field SMACS 0723

NASA's James Webb Space Telescope has produced the deepest and sharpest infrared image of the distant universe to date (**see above**). Known as Webb's First Deep Field, this image of galaxy cluster SMACS 0723 is overflowing with detail.

Thousands of galaxies – including the faintest objects ever observed in the infrared – have appeared in Webb's view for the first time. This slice of the vast universe covers a patch of sky approximately the size of a grain of sand held at arm's length by someone on the ground.



Left- Much sharper Image from new Webb Right- Fuzzier Image from old Hubble

Southern Ring Nebula

The dimmer star at the center of this scene has been sending out rings of gas and dust for thousands of years in all directions, and NASA's James Webb Space Telescope has revealed for the first time that this star is cloaked in dust.

Two cameras aboard Webb captured the latest image of this planetary nebula, cataloged as NGC 3132, and known informally as the Southern Ring Nebula. It is approximately 2,500 light-years away.

In the old Hubble image on right, a bright star lies near the center of this Hubble image, but it's the tiny star barely visible just above it that produced the nebula. A flood of ultraviolet radiation from the small white dwarf's surface makes the surrounding gases fluoresce. The brighter star is in an earlier stage of stellar evolution, but in the future, it will probably share a similar fate.



Elementary students get an 'Hour of Code'

Elementary School students learned how to code last December with guidance from nearby experts.

The event, which is aimed to happen during Computer Science Education Week every December 9th, is organized through an outreach program at a school or company that has programmers. It is part of a global initiative called "Hour of Code" designed to introduce children to computer science with one-hour coding activities.

John Cassleman, K-12 outreach manager, says the need for computer programmers is only growing.

"Computer programming is like mathematics or English," Cassleman said. "We start those at a young age because they're vital to how we operate in society — and likewise, coding is now and will grow to be as vital. There are so many careers that coding feeds into, whether it's software engineering, cybersecurity or web development."

I don't know anything about coding. Can I still host an event? Of course. Hour of Code activities are self-guided.

Start planning here by reviewing our how-to guide. You can organize an Hour of Code event at your school or in your community — like in an extracurricular club, church, non-profit or at work. Absolutely no signup or login is required for students to try the Hour of Code. The program offers tutorials that require no computer at all. You don't need to register to participate!

1,491,019,403 students have been served in this global movement in 180+ countries. 85,707 events were registered last December, 2021.

Host an Hour by <u>contacting us on Facebook!</u> Or contact us at: support@code.org

Info: shpr.fyi/hourofcode



Kids- Build your own solar robot

Looking to build your own Mars rover? Or perhaps explore STEM (science, technology, engineering and mathematics) the fun way?

The first of these sets is the \$19.99 Ciro 12-in-1 solar-powered robot kit, a robot-building STEM kit with 190 pieces that allow you to create up to 12 different types of robots. These pieces include gears, tires, connecting pieces and so much more to allow kids 7-12 to create robots using STEM skills and their imaginations.

After building your robot, the solar panel on top of the robot's head will allow it to collect energy directly from the sun. With solar power, the robot you build could crawl, roll or even float! The manufactuer recommends kids and parents work together to learn how to build robots with this kit.

<u>Info</u>: <u>shpr.fyi/robotkits</u>

Read this week's Bible Readings on page 6 which includes Isaiah's vision for the Assryian attackers of Judah and Israel, "Come now, let us reason together," says the Lord. "If you are willing and obedient, you will eat the best from the land; but if you resist and rebel, you will be devoured..." Isaiah 1: 18-20 NIV

Dave Bunting, Aug. 1, 2022 Credits in links below items. See these columns on my blog <u>daverant.com</u>

