Hubble Space Telescope: Eyes to the Skies

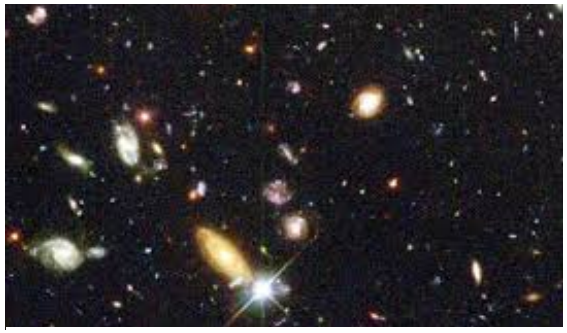
Our understanding of the entire universe changed 400 years ago when an astronomer named Galileo Galilei pointed a telescope to the nighttime sky. Since then, telescopes have become important tools for answering questions about the universe.

The Hubble Space Telescope orbits Earth. It travels so fast that it takes only 96 minutes to circle the planet once!

The most famous telescope today is the Hubble Space Telescope, which is named after Edwin Hubble, a brilliant astronomer who studied other galaxies. It cost $2.5 billion to design, build, and launch, and was put into orbit in April 1990. The telescope orbits around Earth at about 17,000 miles per hour. It weighs more than 13 tons, is 43.5 feet long, and is powered by two huge solar panels. Hubble is the first telescope designed so that astronauts could replace and upgrade its parts in space.

The Hubble Space Telescope is an optical telescope, which means it mostly "sees" the same light that our eyes do. It uses a gigantic, nearly 8-foot wide mirror to capture light coming from faraway objects in space, then reflects that light into sensors which send the data to astronomers here on Earth.

Hubble has made more than 1.3 million observations since it was launched. In addition to capturing some truly beautiful and breathtaking objects, Hubble has helped astronomers, physicists, and other scientists answer many questions about the universe. Hubble showed us that the universe is 13.7 billion years old, took photos of the oldest galaxies we know of, and even sent back pictures of planets orbiting other stars. It also sent us images of faraway stars, galaxies, nebulae (huge clouds of gas and dust in space), and more.



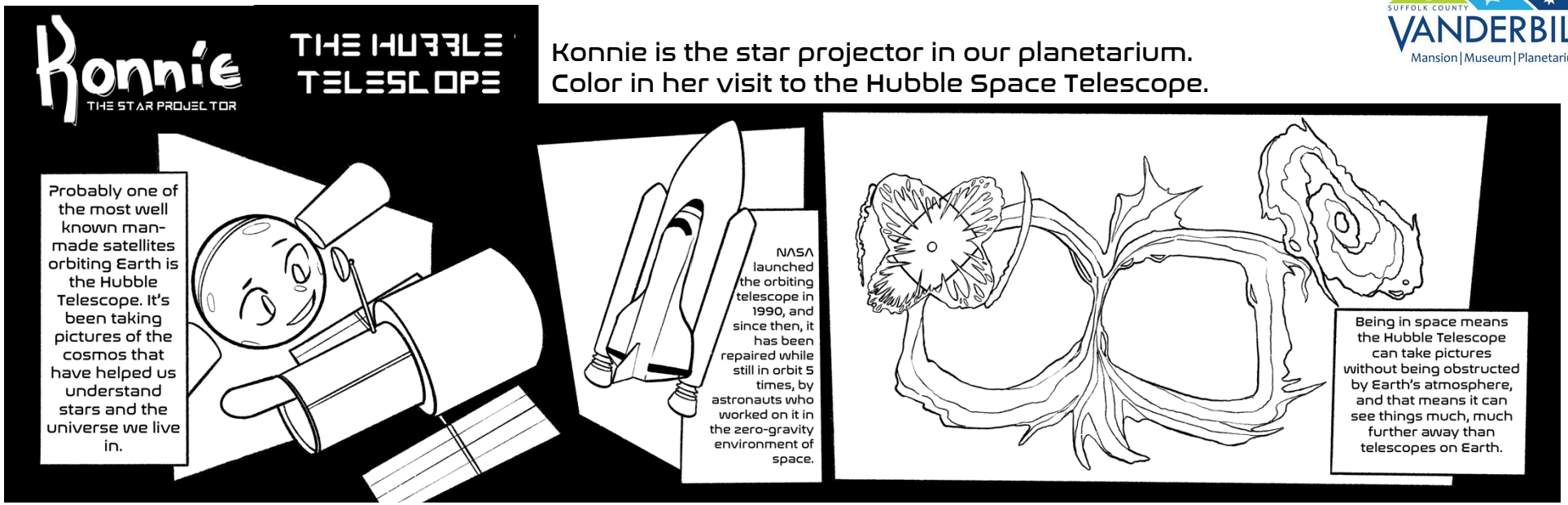
Every point of light in this image, taken by Hubble, is an ancient galaxy.

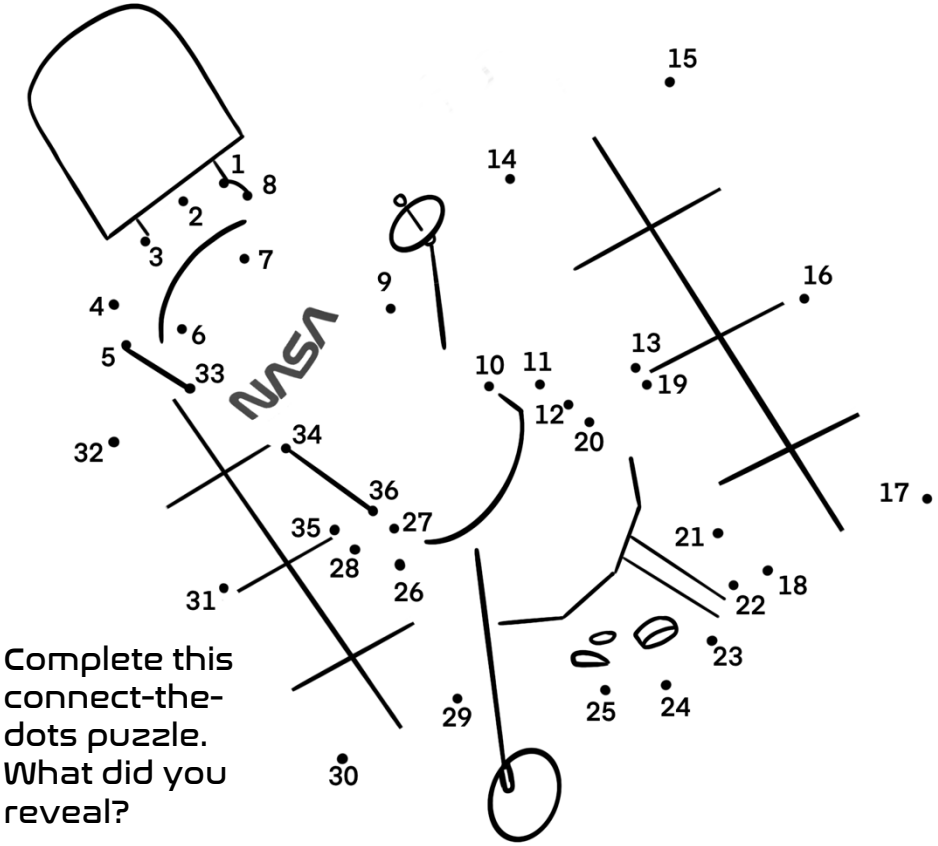
This picture shows a small part of the Eagle Nebula called the "Pillars of Creation."

Although the Hubble telescope won't last forever, we can expect it to continue working until the mid-2020s. Even after it's taken its last photo, we will always remember the Hubble Space Telescope for the beautiful images and amazing discoveries it made.

Visit hubblesite.org/resource-gallery/images to see more pictures taken by the Hubble Space Telescope.

Konnie is the star projector in our planetarium.
Color in her visit to the Hubble Space Telescope.





Complete this connect-the-dots puzzle. What did you reveal?

What did the Hubble Space Telescope see on your Birthday?

Enter your birthday into the following website:

imagine.gsfc.nasa.gov/hst_bday

What did the Hubble Telescope see?

Choose three words to describe the image.

List one fun fact about the object.