

Tour of the Universe Timed Script

0:03 We begin our journey over North America, with a view of the Great Lakes.

On our virtual voyage, we will travel farther than our spacecraft have explored—to view the Universe as revealed by modern astronomy.

0:21 We can now see our entire planet Earth, home to every person you've ever known, every person who's ever lived.

0:34 Earth's only natural satellite, the Moon, comes into view...

0:42 And we now highlight its orbit around Earth.

0:46 We can also see Earth's orbit around the Sun...

0:53 As well as the orbits of the inner planets.

0:59 But our solar system is home to many objects besides planets—including the Asteroid Belt between the orbits of Mars and Jupiter.

1:10 And beyond the orbit of Neptune, we find the icy Kuiper Belt Objects.

1:14 Our fastest spacecraft have just begun to leave the Solar System.

1:18 We now brighten the Sun to match the appearance of the other stars.

1:28 In just a little over a minute, we have traveled a distance light takes years to traverse. We have entered interstellar space.

1:45 We pass through the Hyades star cluster...

1:49 Just beyond the limit of humanity's strongest radio signals.

1:53 We highlight the locations of stars with planets. Our solar system is not alone—we know of thousands of worlds in orbit around other stars.

We estimate that almost every star has a family of planets—and one in six may have an Earth-sized world in orbit around it!

2:21 We live in a vast aggregation of hundreds of billions of stars called the Milky Way Galaxy.

It is so enormous that light takes nearly a hundred thousand years to travel from one side of the galaxy to the other.

2:33 And the Milky Way is not alone. Each white dot now represents an entire galaxy of *billions* of stars.

These galaxies clump and cluster together.

2:45 Yellow dots represent galaxies in the Virgo Cluster.

2:50 The Sloan Digital Sky Survey of galaxies comes into view. Light from the more distant galaxies takes billions of years to travel to Earth.

3:00 Gaps in the data indicate regions we have yet to map.

3:06 Blue-green dots represent bright quasars seen at great distances.

3:16 Finally, we see the oldest light in the Universe, the Cosmic Microwave Background. This high-contrast “baby picture” shows us tiny variations in the temperature and density of the early Universe, which will eventually evolve into the clumps and clusters of galaxies we see closer to home.