

THE SPACE AGE BEGINS

Within months of each other, the United States and the Soviet Union launched their first artificial satellites into orbit around Earth. Both satellites were small and simple. Sputnik 1, a Soviet spacecraft, was the first to reach orbit. It was a 58-centimeter-diameter aluminum sphere that carried two radio transmitters, powered by chemical batteries. The satellite reached orbit on October 4, 1957. Although an extremely primitive satellite by today's standards, Sputnik 1 nevertheless enabled scientists to learn about Earth's magnetic field, temperatures in space, and the limits of Earth's atmosphere.

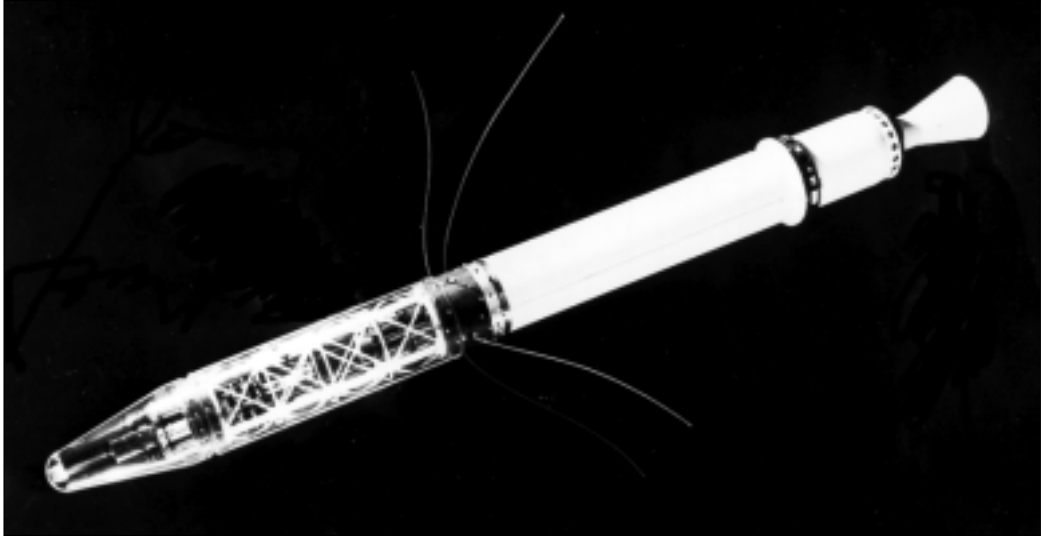
A much larger Sputnik 2 followed, carrying a small dog as a passenger. Although primarily investigating the response of living things to prolonged periods of microgravity, Sputnik 2 did sense the presence of a belt of high-energy charged particles trapped by Earth's magnetic field. Explorer 1, the United States' first satellite, defined that field further.

The cylindrical, 13.6 kilogram Explorer 1 rode to space on top of a Juno I rocket on January 31, 1958. It was launched by the United States Army in association with the National Academy of Sciences and the Jet Propulsion Laboratory of

the California Institute of Technology. NASA was not created formally by an act of Congress until the following October.

Explorer 1 carried scientific instruments designed by Dr. James Van Allen of the University of Iowa. Circling Earth in an orbit ranging from 360 to 2,531 kilometers, the satellite radioed back radiation measurements, revealing a deep zone of radiation surrounding Earth.

Born of the technology of World War II and the tensions of the Cold War, the space age began in



Artist's concept of *Explorer 1* in space

the peaceful pursuit of scientific discovery. In the more than 35 years that have followed, thousands of spacecraft have been launched into Earth orbit, to the Moon, and to the planets. For

the majority of those spacecraft, the goal has been to learn about Earth, our solar system, and the universe.