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# ASTRONOMY #1 - Russian Dogs in Space

Read the article below on Russian dogs in Space. Use this information to answer the questions that follow.

The first men and women who traveled in space — in the 1960s — depended on the sacrifices of other animals that gave their lives for the advancement of human knowledge about the conditions in outer space beyond this planet's protective ozone layer, about the effects of weightlessness on living organisms, and about the effects of stress on behavior. Preparations for human space activities depended on the ability of animals that flew during and after the 1940s to survive and thrive.

Near the end of the 1950s, the U.S.S.R. was preparing to send a dog into orbit above Earth. The Soviets used nine so-called Space Dogs to test spacesuits in the unpressurized cabins of spaceflight capsules. For practice suborbital flights, the dogs Albina and Tsyganka were blasted upward to the edge of Earth's atmosphere at an altitude of 53 miles where they were ejected to ride safely down to Earth in their ejection seats.

Subsequent suborbital flights by the space dogs reached altitudes as high as 300 miles. Then came the stunning 1957 launches of Sputnik 1 and Sputnik 2 to orbit. On October 4th, 1957, the Soviet Union successfully launched Sputnik 1 into orbit. It was the size of a beach ball but the world's first artificial satellite. This marked the beginning of the Space Race between the Soviet Union and the U.S.

## **Laika and Sputnik 2**

Scientists in the Soviet Union were sure that organisms from Earth could live in space. To demonstrate that, they sent the world's second artificial space satellite — Sputnik 2 — to space from the Baikonur Cosmodrome on November 3rd, 1957.

On board was a live stray dog named Laika (Barker in Russian) on a life-support system. Laika also was known as Kudryavka (Little Curly in Russian). The American press nicknamed the dog Muttnik.

While other animals had made suborbital flights, Laika was the first animal to go into orbit. She suffered no ill effects while she was alive in an orbit at an altitude near 2,000 miles.

Laika had been a stray dog — mostly a Siberian husky and around three years old — rounded up from the Moscow streets and trained for spaceflight. She was carried aloft in a capsule which remained attached to the converted SS-6 intercontinental ballistic missile which rocketed her to orbit.

The 1,120-lb. Sputnik 2 was outfitted with scientific gauges, life-support systems, and padded walls, but was not designed for recovery. Laika was supported inside the satellite by a harness that allowed

some movement and access to food and water. Electrodes transmitted vital signs including heartbeat, blood pressure and breathing rate.

Laika captured the hearts of people around the world as the batteries that operated her life-support system ran down and the capsule air ran out. Life slipped away from Laika a few days into her journey. Later, Sputnik 2 fell into the atmosphere and burned on April 14, 1958.

Today, Laika again captures the hearts of people with a monument to her erected 40 years after her spaceflight by the Russians to honor fallen cosmonauts at Star City outside Moscow. The likeness of Laika can be seen peeping out from behind the cosmonauts in the monument.

Laika also is remembered on a plaque at the Moscow research center where she was trained.

### **Later Russian Dogs in Space**

During the Sputnik series of satellites, the Russians prepared to send men to orbit by sending dogs first. At least thirteen Russian dogs were launched toward orbit between November 1957 and March 1961. Although 5 died in flight, 8 were safely brought back to Earth.

### **BASED ON YOUR READING, ANSWER THE FOLLOWING QUESTIONS:**

**1. What benefit did the USSR gain in sacrificing Laika's life?**

**2. Was her life worth the cost? Why or why not?**

**Read the full article that includes other animals in space.**

<http://www.spacetoday.org/Astronauts/Animals/Dogs.html>