

ANIMALS IN SPACE



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ince the dawn of space exploration, animals have played a key role in testing the safety of spaceflight for humans. Scientists used animals to learn whether human astronauts could ever visit space and return to Earth unharmed. They also launched animals into space to study the effects of weightlessness, radiation, and other outer space perils on various biological processes. Without the help of many animals, humans may never have reached the moon. And we would be farther from the goal of sending people into outer space for long periods of time.

1947

First animals in space

FEBRUARY 20, 1947

The first animals in space are fruit flies. The animal 3000-pet-forms on a V-2 rocket to study radiation exposure at high altitudes. The rocket reaches 100 miles (171 km) high in just over three minutes. A capsule carrying the fruit flies ejects and parachutes to the ground, where the flies are recovered alive.



1949

First mammal in space

JUNE 14, 1949

A Rhesus monkey named Albert II becomes the first living mammal in space. The rocket reaches about 80 miles (134 km) in altitude. Unfortunately, on the way back down, Albert II's parachute fails to open and he dies on impact.



1951

First mammals to survive spaceflight

JULY 22, 1951

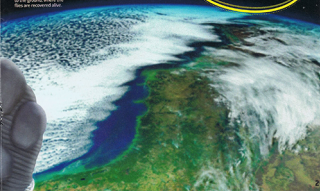
The Soviet Union sends a pair of stray dogs named Puzosha and Dazhik into space. The first canines in space also become the first mammals to safely return to Earth after a space flight.

1957

First animal in orbit

NOVEMBER 3, 1957

The Soviet satellite Sputnik II launches into orbit, carrying a stray dog named Laika. The dog is the first living being to orbit the Earth. Unfortunately, Laika does not survive the flight.



1959



First rabbit in space
JULY 2, 1959

A Soviet rocket carries two dogs and a rabbit named Matinka over 300 miles (500 km) into space. The animals all return home safely.

1960



First spacecraft to carry animals into orbit and return them alive
AUGUST 19, 1960

The Soviet Union launches Sputnik 3, which carries two dogs (Belka and Strelka), a rabbit, 40 mice, the rats, fruit flies, and plants. It is the first spacecraft to carry animals into orbit and return them alive. Strelka later gives birth to puppies. Soviet leader Nikita Khrushchev gives one as a present to President John F. Kennedy's daughter, Caroline.

First animal to interact with a spacecraft
JANUARY 31, 1961

The United States sends a trained chimpanzee into space. Ham, escaped from the Holloman Aerospace Medical Center, is trained to perform tasks such as pulling levers during spaceflight. Ham becomes the first animal to interact with a spacecraft rather than simply riding in one, demonstrating the ability to perform tasks during spaceflight. The chimp performs all duties well and returns safely. This mission paves the way for the successful launch of America's first human astronaut, Alan Shepard, a few months later. Ham goes on to live in a zoo until his death in 1983.

1961



First human in space
APRIL 12, 1961

Yuri Gagarin of the Soviet Union is the first human in space. He orbits the Earth for nearly two hours and returns safely.

1968

First animals to enter deep space and circle the moon
SEPTEMBER 14, 1968

The Soviet Union launches the Zond 5, the first spacecraft to circle the moon and return to Earth. The rocket carries tortoises, mice, flies, mosquitoes, and other biological specimens. They are the first Earth-organisms to travel around the moon.



First woman in space
JUNE 16, 1963

Soviet cosmonaut Valentina Tereshkova spends three days orbiting Earth.

1963

First (and only) cat in space
OCTOBER 14, 1963

France launches a cat named Felicette into space. The Felice replaces Felix, who can't leave the day before departure. During the 15-minute flight, Felicette reaches an altitude of around 150 miles (240 km) and then descends safely by parachute.



1965



First human spacewalk
MARCH 18, 1965

While tethered to his spacecraft, Soviet cosmonaut Alexei Leonov becomes the first person to walk in space.



First humans on the moon
JULY 20, 1969

The American Apollo 11 mission successfully sends Neil Armstrong and "Buzz" Aldrin to the surface of the moon.

1969



First fish and spiders in space
JULY 28, 1973

Soyuz 3 carries the first fish (a species called a mummichog) and the first spiders into space (spider species named *Arachnia* and *Amaia*).

1973



1984

First untethered human spacewalk
FEBRUARY 7, 1984

American astronauts Bruce McCandless II and Robert Scobee complete the first untethered spacewalk. They use special backpacks to propel themselves around.



Launch of Mir Space Station
FEBRUARY 20, 1994

The Soviet Union launches Mir, the first permanently inhabited long-term research station in space. Mir is almost continuously occupied until November 2001.



1986

1995

First animal to survive direct exposure to space
SEPTEMBER 2007

Tardigrades, microscopic critter (also known as water bears), survive 10 days of exposure to open space. Their remarkable ability to completely dry-out protects them. The animals were re-hydrated after withstanding the cosmic rays, low-oxy, freezing temperatures, and ultraviolet radiation of space.



2007

Longest spaceflight
MARCH 22, 1995

Soviet cosmonaut Valeri Polyakov returns to Earth after spending a record 437 days in space.