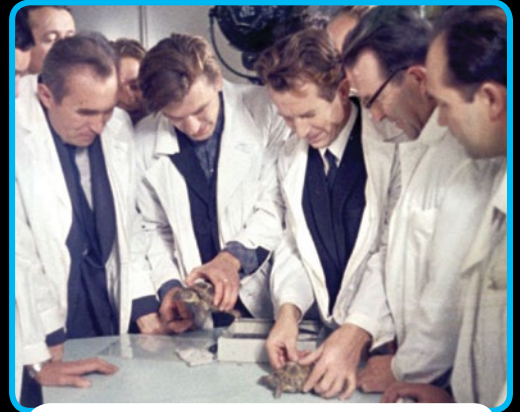


21 Tortoises to the Moon

As the Soviet scientists prepared to send humans to the Moon, they designed a special mission to send tortoises first! Two Steppe tortoises were placed in the Zond 5 spacecraft and launched to the Moon, around 384,000 km (238,600 mi) away.

They didn't land on the Moon or even enter the Moon's orbit. The tortoises's space capsule followed a **trajectory** around the Moon that would slingshot them right back to Earth.

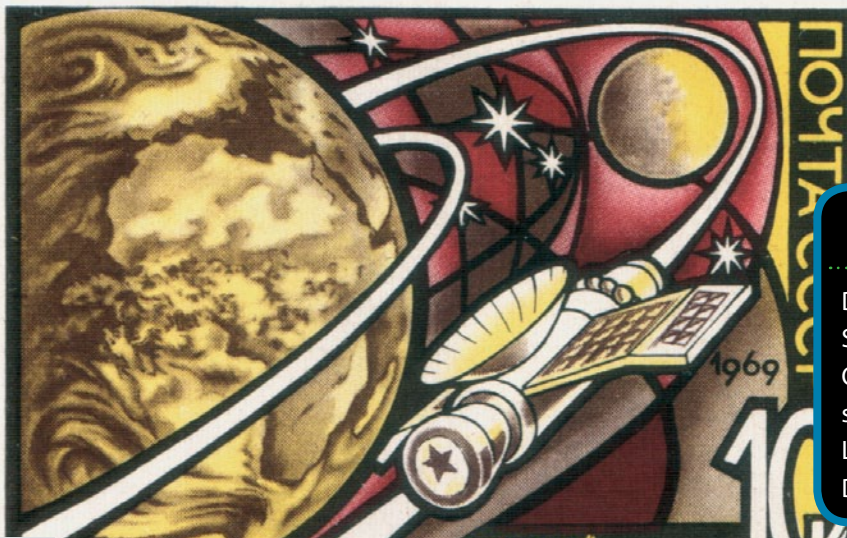
The experiments were designed to study the changes in the animals' health before, during, and after the flight. Zond 5 was recovered near the coast of Madagascar. After being transported back to Moscow, it was finally opened. The tortoises had lost 10 per cent of their body weight but were otherwise healthy. They were the first creatures to fly around the Moon.



Soviet scientists prepare tortoises for their flight to the Moon.



Zond 5 capsule recovered off the coast of Madagascar.



Stamp commemorating the Zond 5 Moon mission.

Moon Mission

Date: September 14, 1968

Species: Steppe tortoises

Objective: Study chemical changes in cellular and subcellular tissue

Launch Vehicle: Zond 5

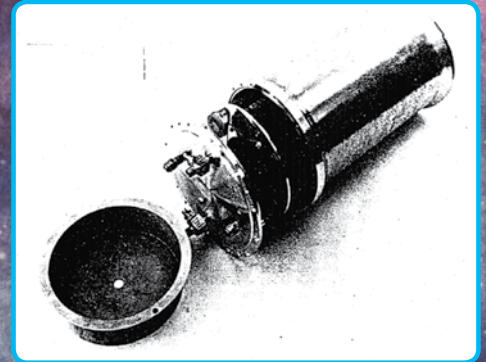
Destination: Slingshot around the Moon



22 Fe, Fi, Fo, Fum, and Phooey

Not many people know that five pocket mice travelled to the Moon on Apollo 17. The mice stayed in the command module, and never went down to the Moon's surface. Originally, the mice were identified only by a number, but astronauts renamed them Fe, Fi, Fo, Fum, and Phooey. While the capsule had enough compartments for six mice, only five were flown to ensure that they had a sufficient oxygen supply.

These five pocket mice were part of the Biological Cosmic Ray Experiment. The experiment required no astronaut intervention, but when the pocket mice returned one of the astronauts had left a message on their capsule saying, "For what it's worth, I think I hear scratching on the inside." It was determined that the Apollo command module was so well shielded from radiation it actually impeded the test.



Mouse compartment.

Little pocket mouse.

Every NASA mission has a commemorative patch. This is the mission patch from Apollo 17.



Adaptable mice

Pocket mice were chosen because they are small (7–12 g/0.25 oz–0.42 oz), lower their **metabolic rate** significantly when inactive, and do not require drinking water because they get enough from their food.

Apollo 17

Date: December 1, 1972



Species: Little pocket mice

Objective: Testing if exposure to cosmic rays caused micro-lesions during lunar flight

Launch Vehicle: Apollo 17 command module

Mission Duration: 12 days

Destination: Lunar orbit