



# SPACE RACE and U.S. Space Travels

\*only write the underlined parts

By Ms Toal

# Animals in space – quick intro

- 1940's – fruit flies
- 1950's – first dog in orbit was LAIKA – from Russia – but it died.
- 57 dogs have been sent into space
- 1960 – France sent a rat and then a cat into space
- The most famous is the monkey that traveled successfully back to earth

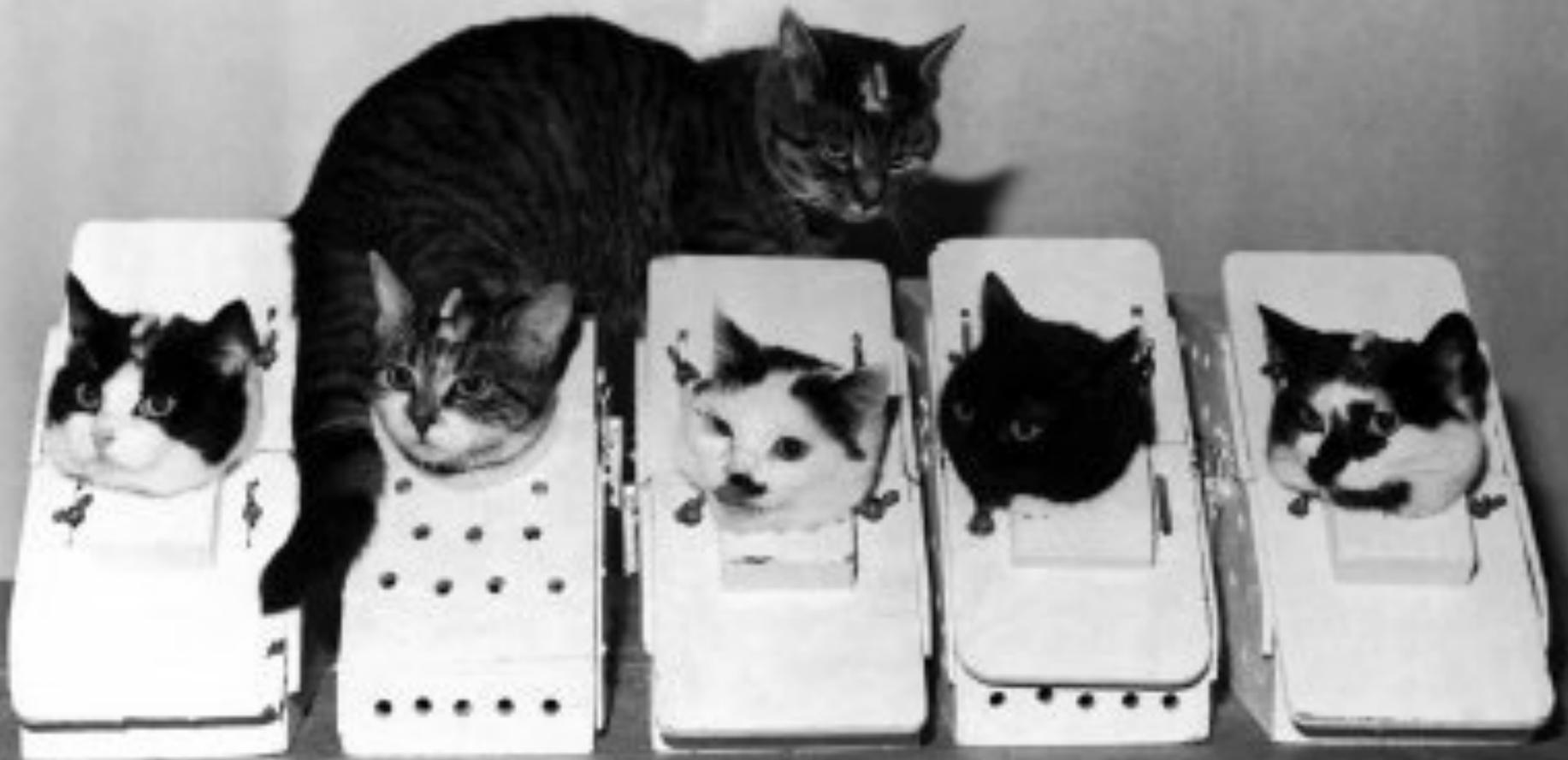
This is Laika – the famous Russian dog



The U.S. sent many monkeys to space. “Han” was the most successful of all the primates in space



Cats needed to be contained after they realized how their claws caused damage while in flight.





“HAN”

# When did we start?

(do not begin notes yet...)

- In 1957, the “space race” began. Post WWII, the world was quite paranoid. Countries didn’t really trust one another. When “satellites” made the headlines, everyone thought the satellite was actually a bomb that was going to be dropped and end the world at any time. Very paranoid!
- Both countries (US and Russia) wanted to win—to prove their scientific superiority and their military strength.



# US and Soviet Leaders

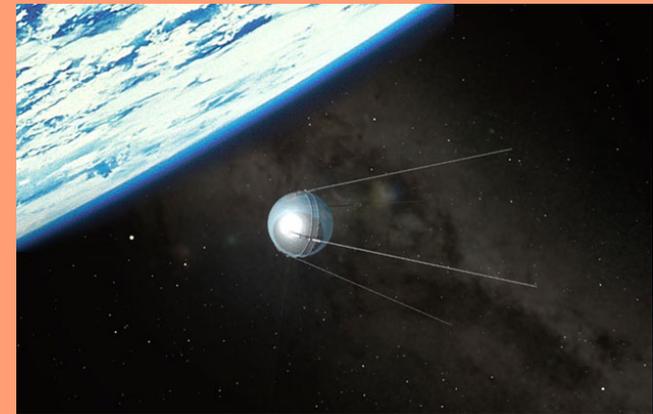
- Soviet Premier Khrushchev wanted to show that communist technology was superior.
- President Kennedy wanted to beat the Soviets to the moon - speaking about sending astronauts to the moon.



# 1957

(Begin taking notes, underlined only)

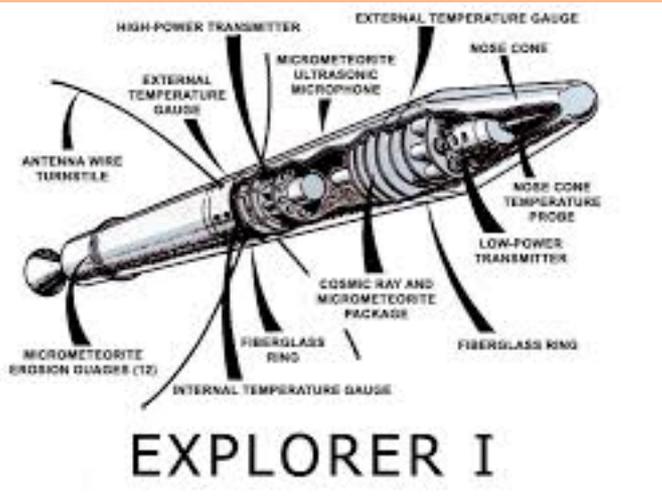
- The Soviet Union launches Sputnik, the first artificial Earth satellite. "Sputnik" is the Russian word for "Traveler."





# 1958

- The United States launches its first satellite, Explorer I.
- The National Aeronautics and Space Administration (NASA) is formed in the United States. NASA is the federal agency devoted to exploring space.



# 1959

- The Soviet Union launches Luna 2. This is the first space probe to hit the moon.





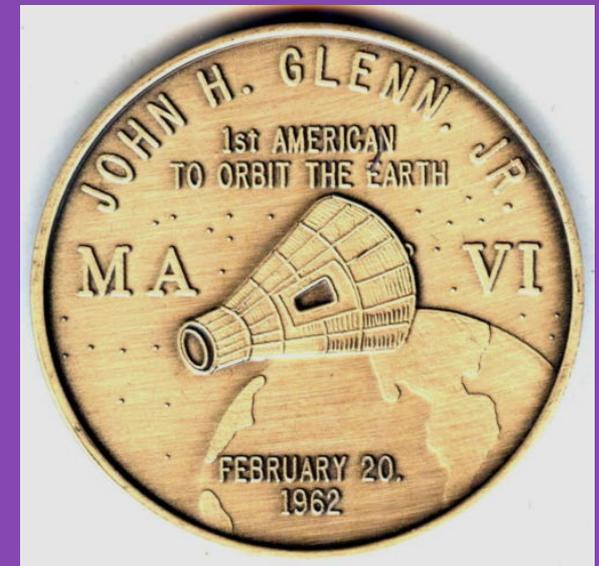
1961



- Soviet cosmonaut Yuri Gagarin becomes the first person to orbit the Earth. (April 12, 1961)
- Alan Shepard, Jr. becomes the first (American) astronaut in space. (May 5, 1961)

# 1962

- John Glenn, Jr. becomes the first American astronaut to orbit the Earth.



# 1963



- The first woman in space is Soviet cosmonaut Valentina Tereshkova.



*"Anyone who has spent any time in space will love it for the rest of their lives. I achieved my childhood dream of the sky."*

*Valentina Tereshkova*

# 1965

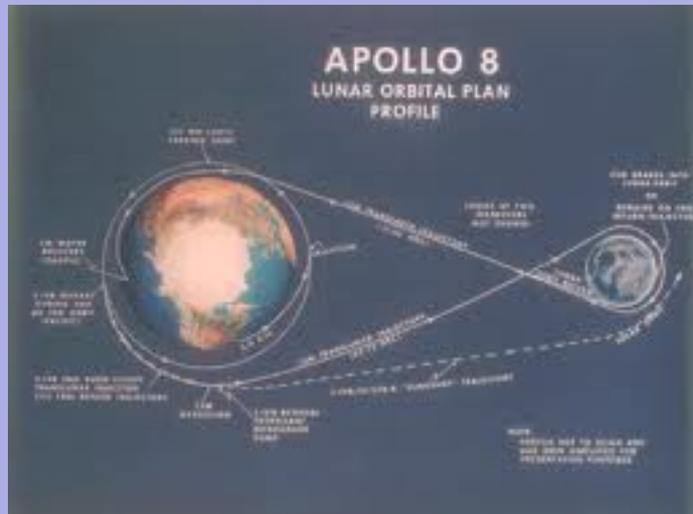
- A Russian cosmonaut completed the first space walk.



# 1968



- The United States launches Apollo 8, the first manned space mission to orbit the moon.



# 1969



- US = 1<sup>st</sup> man on the moon😊
- U.S. astronauts Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins make it to the moon. Armstrong is the first man to walk on the moon and was followed by Buzz Aldrin.  
[On the moon video](#)
- [lift off and landing](#)



# Who won?

- By reaching the moon first, **the United States won the space race**. Soviet and U.S. leaders knew that being the first country to land on the moon would be an extremely important media event. The world watched each country's progress with great interest.



# 1971

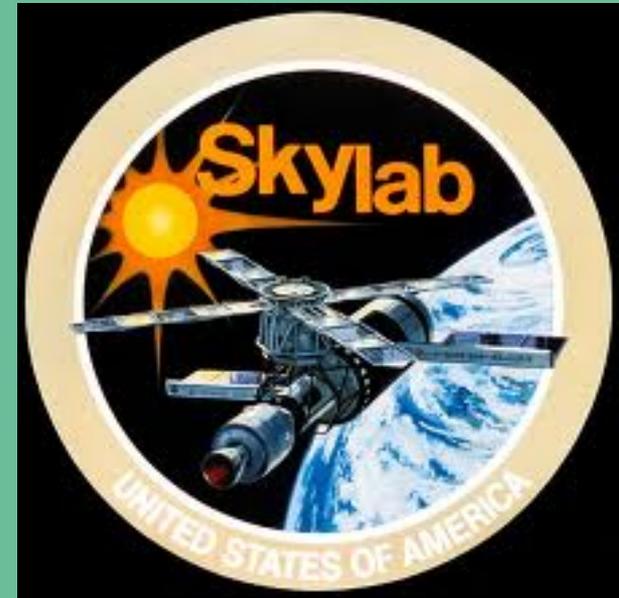
- The first space station, Salyut 1, was sent into orbit
- MIR was launched by USSR



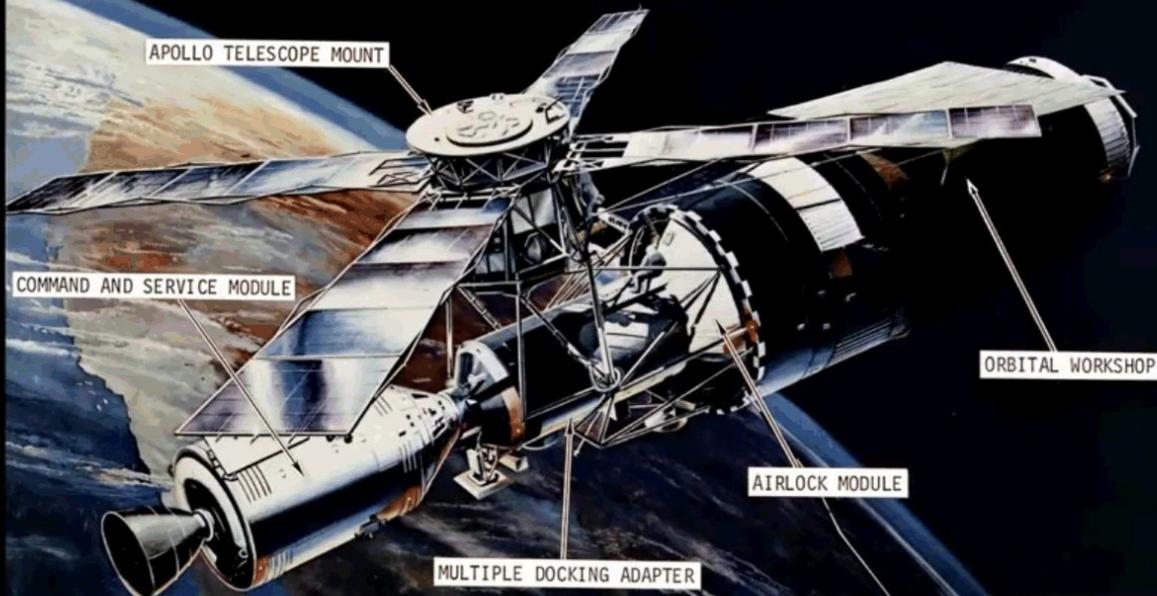


# 1973

- US launches Skylab



**"Skylab" was a 100-ton orbital research and observation platform consisting of an airlock module, docking adaptor, orbital workshop, and a solar and terrestrial telescopic observatory called the "Apollo Telescope Mount".**



# Missions

- **Project Mercury** - To orbit a manned spacecraft around Earth
- **Project Gemini** – send 2 men and equipment to space flight up to two weeks in duration and to perfect methods of entering the atmosphere and landing



# Other Missions

- Apollo Missions - to carry out a program of scientific exploration of the Moon.
- Space Shuttles – to work with other countries on the ISS and be able to bring back shuttles and re-use them for more launches.



# Space shuttle

- First launch of space shuttle = 1981



# ISS

- Orbits 250 miles up from Earth.
- Scientific research for 16 nations
- last shuttle to LA
- fly over planet earth





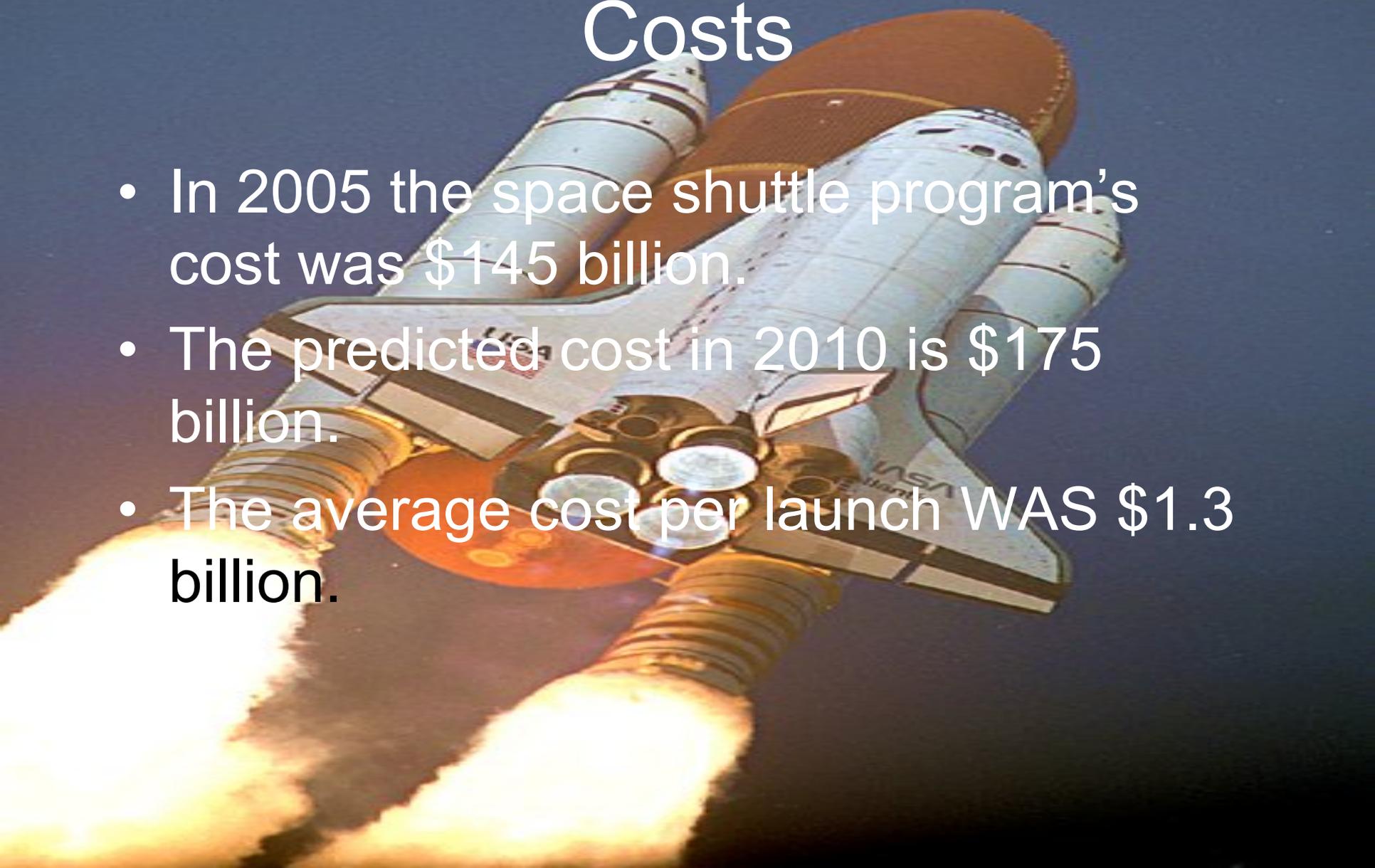
# Fly to edge of space

- Mig -25 99.9% of atmosphere 20,000 m and higher
- F-104
- **The SR-71 flies in excess of 85,000 feet (16 miles up). The curvature of the Earth has been said to be visible.**



# Costs

- In 2005 the space shuttle program's cost was \$145 billion.
- The predicted cost in 2010 is \$175 billion.
- The average cost per launch WAS \$1.3 billion.



# 5 Shuttles

- Columbia – lost during re-entry 2003
- Challenger – lost 73 sec after liftoff  
1986
- Atlantis – Kennedy Space Center
- Discover - Smithsonian National Air and  
Space Museum in Virginia.
- Endeavor - Samuel Oschin Air and  
Space Center







# Columbia Disaster

- Began disintegrated during re-entry on Feb. 1, 2003 over California, Texas, and rained debris as far as Louisiana.
- It had a weakness in the heat shield so when they re-entered the atmosphere, the heat and friction caused it to burn up in our atmosphere.









