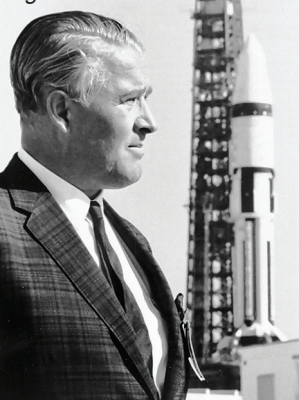


NASA marks 50th anniversary of Apollo

The Apollo programme began 50 years ago with the first manned Apollo space flight which laid the groundwork for the missions that saw a dozen men land on the moon between 1969 and 1972

May 2, 1945: In closing weeks of World War II, **Wernher von Braun** – Nazi Germany's leading aerospace engineer and developer of V2 rocket – surrenders to U.S. forces and is secretly moved to United States, where he works on U.S. Army's ballistic missile programme

Von Braun with **Saturn IB** rocket used in early Apollo flights



Jul 29, 1958: **National Aeronautics and Space Administration (NASA)** founded. Von Braun and team assimilated into NASA in 1960, where they develop **Saturn** rocket programme



May 25, 1961: In address to Congress, President **John F. Kennedy** sets goal of "landing a man on the Moon and returning him safely to Earth" by end of 1960s. Later **We choose to go to the Moon** speech garners wide public support



Anniversary logo offers nod to past and glimpse of future

MANNED APOLLO MISSIONS

■ Apollo 1 – Jan 27, 1967: Flash fire kills astronauts **Gus Grissom, Ed White** and **Roger Chaffee** during prelaunch test. Disaster makes NASA re-examine all aspects of space programme

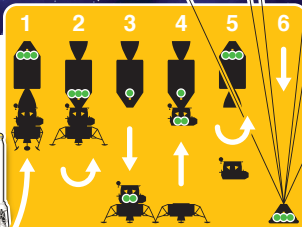
■ Apollo 7 – Oct 11-22, 1968: Crew: **Wally Schirra, Walt Cunningham, Donn Eisele**. First manned Apollo mission orbits Earth for 11 days



■ Apollo 8 – Dec 21-27, 1968: **Frank Borman, Bill Anders, Jim Lovell**. First mission launched by **Saturn V** rocket. In orbit around moon Anders takes iconic **Earthrise** photograph



"That's one small step for man, one giant leap for mankind"
Neil Armstrong, Jul 20, 1969



Saturn V launch vehicle

■ Apollo 9 – Mar 3-13, 1969: **James McDivitt, Rusty Schweickart, David Scott**. Remains in Earth orbit but tests separation of lunar module from command module

■ Apollo 10 – May 18-26, 1969: **Thomas Stafford, Eugene Cernan, John Young**. Full rehearsal for moon landing. Lunar module comes within 16km of moon's surface

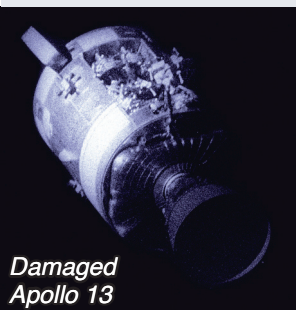
■ Apollo 11 – Jul 16-24, 1969: **Neil Armstrong, Buzz Aldrin, Michael Collins**. Armstrong becomes first human being to walk on another world



■ Apollo 12 – Nov 14-24, 1969: **Charles Conrad, Alan Bean, Richard Gordon**. Recovers pieces of 1967 **Surveyor III** robotic lander, to study effects of lunar environment on spacecraft

■ Apollo 13 – Apr 11-17, 1970: **Jim Lovell, Fred Haise, Jack Swigert**.

Crew never reach moon after oxygen tank explodes and depletes almost all power from command module. Crew limp back to Earth, using lunar module as lifeboat



Damaged Apollo 13

■ Apollo 14 – Jan 31-Feb 9, 1971: **Alan Shepard, Edgar Mitchell, Stuart Roosa**. Shepard walks 2.7km – and plays golf – on moon

■ Apollo 15 – Jul 26- Aug 7, 1971: **David Scott, James Irwin, Alfred Worden**. Mission includes lunar rover which drives more than 27km

■ Apollo 16 – Apr 16-27, 1972: **John Young, Charles Duke, Ken Mattingly**. Second rover mission. Problems cut mission short by one day

■ Apollo 17 – Dec 7-19, 1972: **Eugene Cernan, Harrison Schmitt, Ronald Evans**. Last Apollo mission features three moonwalks of over seven hours. Samples from this and previous moon missions continue to reveal valuable information to this day