

Space Race – WWII to Moon Landing

Broader Context - The Cold War

1. Intense rivalry in the political arena
2. Leads to a desperate race between the two superpowers - the “space race”, paralleled in other areas of competition
3. A contest with **prestige** and **propaganda** potential
4. Chance to prove **superiority** of political and economic system
5. Rocket development had military implications for the “arms race” – **payload delivery**
6. After WWII both USA and USSR worked to build **ICBMs** (Inter-Continental Ballistic Missiles) that could travel thousands of miles to deliver nuclear warheads
7. These rockets could also send satellites and men into orbit – potential for ‘**Intelligence Gathering**’ (spying)

The Space Race – Phase One

1. After WW2 the Americans believed it had the edge
2. German scientists like Werner von Braun had developed the V1 and V2 rockets for the Nazis (**Peenemunde**)- now worked for the US military
3. US (**Operation Paperclip**) & USSR “grab” what they can of the German rocket programme
4. Both sides initiate rocket programmes of their own
Sergei Korolev vs Wernher Von Braun
5. USA had bases in Europe near USSR & could launch nuclear strikes – Soviet disadvantage to overcome.
6. Therefore, USSR needed **longer-range** rockets (**R7**)
7. Spies active on both sides (like Manhattan Project)
8. 1960 (May)– U2 Pilot Francis Gary Powers shot down by Soviets and held for 2 years (*Bridge of Spies*)
9. Surveillance satellites designed that could take photos from space are thus another incentive
10. The reaction to Sputnik shocked US that USSR – a big propaganda impact- US Public Opinion mobilized
11. USSR had developed missiles that could reach USA
12. Eisenhower secretly happy – can press ahead with his plans for spy satellites
13. **Soviet Failures = SECRET, US Failures = PUBLIC**

USSR ← Timeline of major events → USA

1. 1957, (4 Oct) Sputnik I, **first satellite** in space, USSR
2. 1957, (3 Nov) **First creature** in space (Laika the dog), USSR
3. 1958, (31 Jan) Explorer I, first US satellite
4. 1958, (29 July) NASA Established by President Eisenhower
5. August 19, 1960, (19 Aug) 1st animals & plants returned alive from space (Belka and *Strelka*)
6. 1960, (13 Sept) Luna II, first probe lands on moon
7. 1961, (12 Apr) Yuri Gagarin is first man in space
8. 1961, (5 May) Alan Shepard is first American in space
9. 1962, (12 Sept) JFK pledges US will put 1st man on moon
10. 1962, (20 Feb) Mercury 7, John Glenn – 1st American in orbit
11. 1963, (16 Jun). Valentina Tereshkova 1st woman in space
12. 1965, (18 Mar) 1st Space Walk. Aleksey Leonov.
13. 1965, (3 Jun) Gemini 4, Edward White - 1st US space-walk
14. 1967, (27 Jan) Apollo I tragedy kills 3 Astronauts
15. 1967, (9 Nov) Saturn V rocket successfully tested
16. 1968, (Dec) Apollo 8 successfully orbits the moon
17. **1969, (20 July) Apollo 11 lands 2 men on the moon**
18. 1975 (July) 1st multinational mission Apollo–Soyuz Test Project

The Space Race – Phase Two

1. LB Johnson created a huge fuss over Sputnik which forced Eisenhower into the space race
2. Media - “*The free world must control space*”
3. 1961, JFK vows: USA will put a man on the moon “*before the decade is out*”. “*We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard.*”
4. **Mercury** Programme – Get an American into space
5. **Gemini** Project – 2-man flights, test docking techniques, space-walks (all the elements needed to make moon landing possible)
6. **Apollo** Programme – test soft landings on the moon, photograph the surface, lunar Orbiter – photographed possible landing sites
7. American technology overtakes the Russians
8. LBJ becomes President in 1963: “*I do not believe this generation of Americans is willing to resign itself to going to bed each night by the light of a communist moon*”.
9. ‘Outer Space Treaty’ of 1967 said neither side could claim the moon
10. JFK & LBJ (Ground work) – Nixon is president for the landing.

RESULTS

1. Fulfilled J.F. Kennedy’s commitment
2. Huge project involving over 400,000 people nationwide. “We’re not spending that money on the moon, but right here in America.” Cash cow for US businesses (Military-Industrial Complex)
3. USA (Liberal Democracy) wins the “space race” – victory for “West”
4. USSR had launched **Luna XV** to try to deflect attention from Apollo 11 but crash-landed on the moon
5. USSR concentrated on space stations – not as valuable for propaganda
6. **\$25bn: Total cost of the Apollo** programme
7. **Budget cuts** in the late 1960s and 1970s meant nobody has landed on the moon since 1972 (only **12 men** in total). Public lost interest.

Why was the USA the first country to put a man on the moon?

1. “**Funding**”- USSR didn’t invest as much money into space race as the US. Korolev forced to cut corners.
2. “**Political Will**” - The US wanted a dramatic success in Space Programme to illustrate superiority of its system
3. Despite needs of **Vietnam War** & ‘**Great Society**’ and criticisms, big spending continued on the programme.
4. Trickle down into **US tech industries** – GM, North American Aviation, Douglas Aircraft Company, and IBM.
5. The US took the **dominant role** in world affairs
6. The USA still felt threatened by Soviet advances in the Space Race. Space race morphs in to Arms Race