**SPACE AND THE COLD WAR**

**Read the following development of the Cold War carefully and answer the questions that follow.**

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| **DEVELOPMENT OF THE COLD WAR** |  | |
| 1939-45: The Second  World War. America and  the Soviet Union are allies  in the fight against  Germany. The ‘common  cause’ disguises their  Ideological differences. | Rocket design, vital to any subsequent venture into  space, is pioneered under the supervision of the German  Army at Peenemunde on the Baltic coast. The project’s technical director is Werber von Braun. By the end of  1943, his full scale ballistic missiles enter mass production as the V2, Hitler’s revenge weapon. Armed  with one-ton warheads, 1200 of them are fired at  London, killing more than 2500 people. Had these weapons been available sooner, they would most probably have won Germany the war. | |
|  | **AMERICAN SPACE**  **PROGRAMME**  **SOVIET SPACE**  **PROGRAMME** | **SOVIET SPACE PROGRAMME** |
| 1945: The War ends.  Nazi-occupied Europe is  liberated. The allied  powers – America, the  Soviet Union, France and  Britain – preside over the  ruins. In Eastern Europe  the Soviets create puppet  states closely monitored by  Moscow. America  explodes atomic bombs at  Hiroshima and Nagasaki,  to end the war with Japan  but also to impress the  Soviets. | Werner Von Braun and  120 of the best German  rocket scientists surrender  to the Americans. Under  Operation ‘Paperclip’, the  Nazi party affiliation and  SS membership of many of  these scientists were  erased from their  biographies to avoid future  PR problems. | The Soviets capture V2  missiles, equipment and  6000 German scientists  and rocket engineers.  They set to work  immediately launching  captured V2 rockets and  refining robot technology. |
| 1946: Winston Churchill  warns that an ‘iron curtain’  has divided Europe  between the Soviet and  American spheres of  influence. | The Americans develop a  testing ground at White  Sands in New Mexico, to  build missiles for the US  Army. |  |
| 1948: barbed wire  separates the two halves  of Europe. In the West,  America helps  reconstruction with an  injection of cash – the  Marshall Plan. In the East,  the Communist dominated  zone, American aid is  rejected. The Soviets  blockade Berlin. |  |  |
| 1949: The Soviets explode  their first atomic bomb. In  America, Senator Joe  McCarthy starts his  campaign to root out  anything ‘un-American’;  anti-Communist witchhunts  sweep the country. |  | Stalin, the Soviet leader,  calls for the development  of a rocket large enough to  attack America armed with  a nuclear warhead. Sergei  Korolyev and his team of  rocket scientists set to  work. |
| The 1950s. The arms race  intensifies. The Americans  detonate the first H-bomb  in 1952. The Soviets follow suit in 1953. | Werner Von Braun tests  second generation V2  rockets at Cape Canaveral  in Florida, believing that  these ‘Redstone’ rockets  will eventually be capable  of launching a satellite into  orbit. |  |
| 1955: The creation of the  Warsaw Pact, the military  alliance of East European  nations under Soviet  guidance. | American President  Eisenhower calls for a US  satellite to be launched  within two years. | The Soviets announce  plans for the launch of a  satellite. |
| 1956: The people of  Communist-controlled  Hungary rise up against  the Soviets, and call for  American help. Help never  arrives, because the  Americans have realized  that the cost of conflict in  the nuclear age would be  too great to contemplate.  Soviet tanks roll into  Hungary and crush the  uprising. |  |  |
| 1957: The launch of  Sputnik 1 proves to  America the superiority of  Soviet scientists. And the  implications of Inter-  Continental Ballistic  Missiles are worryingly  clear: from now on, nuclear  devastation can be  launched from great  distances – bombs no  longer need to be dropped  from a plane, as happened  at Hiroshima. | America fails in attempts to  fire Inter-Continental  Ballistic Missiles, and to  launch satellites. An  American general glumly  concludes: “we got the  wrong Germans…” | The Soviets amaze the  world. On the 21st of  August, they launch the  world’s first Inter-  Continental Ballistic  Missile, the SS6. Then, on  October 4th, they launch  Sputnik 1, the world’s first  artificial satellite. One  month later, Sputnik 2 is  launched carrying a dog,  Laika. Laika survives 10  days in orbit before dying  of a lack of oxygen. |
| 1958/8: The Cold War  thaws slightly. US  President Eisenhower  welcomes Soviet Premier  Nikita Khrushchev on a  tour of America. But the  truce does not last long | Werner Von Braun  successfully launches  Explorer 1, the first  American satellite. In June  1958, NASA (the National  Aeronautics and Space  Administration) announces  Project Mercury, the  programme for a manned  flight into space. | ‘Luna 2’, a Soviet  unmanned spaceprobe,  becomes the first manmade  object to hit the  moon. ‘Luna 3’ takes the  first photographs of the  Moon’s ‘dark side’. |
| May 1960: A Soviet missile  shoots down an American  spy plane in Soviet  airspace. |  |  |
| 1961: Kennedy takes office  determined to toughen up  policy against the Soviets.  The stand-off in Berlin  reaches a head with the  building of the Berlin Wall. | Soviet success in space  leads Werner Von Braun to  remark that if the  Americans ever get to the  moon, they’ll have to check  in through Soviet customs  first. Yet just six weeks  later Kennedy makes his  historic speech promising a  return trip to the moon  ‘before the decade is out.’ | Cosmonaut Yuri Gagarin  becomes the first man in  space, completing a full  orbit of the Earth on 12th  April 1961. Soviet  superiority in space seems  unbeatable, and Soviet  scientists are scornful of  Kennedy’s ambitions. |
| 1962: The Cuban Missile  Crisis; the Cold War’s  climax. A US spy plane  spots Soviet ships moving  missiles to Communist  Cuba, just 100 miles off the  US coast. Kennedy blockades Cuba. Nuclear  war seems imminent. The  Soviets back off. | John Glenn becomes the  first American to orbit the  Earth. | In Vostok 6, Valentina  Tereshkova becomes the  first woman in space (June  1963). |
| 1965: Kennedy’s  successor, Lyndon B.  Johnson, sends American  troops to fight the  Communist forces of North  Vietnam. The war ends  with a Communist victory  eight years later. | From 1965 to 1968 NASA  slowly overtakes the  Soviets in the race for the  Moon. Project Mercury is  followed by Project Gemini,  which develops spacecraft  large enough for two or  three astronauts, and  practices docking procedures. By 1966 the  gigantic Saturn V rockets  used in the Apollo  launches are ready for  tests. | The Soviets meanwhile  develop the Voskhod  Programme – its aim more  ambitious than simply a  flight to the moon. They  were investigating the  possibility of manned  space stations orbiting the  earth, from which Moon  trips could be made on a  frequent basis. From  Voshod 2, Cosmanaut  Alexei Leonov performs  the first space walk. |
| 1968: Students protest  against the war in Vietnam.  America is clearly no  longer a nation united  against the ‘Communist  threat.’ | The three American  astronauts of Apollo 8 pilot  a spacecraft into orbit around the Moon and return to Earth. Project  Apollo celebrates its first outstanding success. |  |
| 1969: The first Strategic  Arms Limitation talks are  held between Moscow and  Washington, to limit the  colossal spending both  Americans and Soviets  had been pushing into  defence. Although the  Cold War would continue  until the fall of the Berlin  Wall in 1989, the  superpowers were at last  finding ways to preserve the fragile peace. | 21st July 1969: Apollo 11.  Neil Armstrong and “Buzz”  Aldrin walk on the Moon |  |

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**Questions**

1. To what extent did Project Apollo - the American Moon landing programme - depend on the Cold War? Why?
2. Do you suppose Project Apollo would ever have left the ground had the Cold War never taken place?
3. From the information given in the table, at what points between /945 and /969 was the Cold War at its most intense? And at what points did tensions seem to relax?
4. Do these fluctuations seem to affect either space programme in any way?
5. Does it surprise you that the Apollo missions, founded at a time of such hostility between America and the Soviet Union, reached their peak at a time of détente?
6. Think about relations between the super-powers today Do you think we are likely to see many developments in space technology in the near future? Why?