The Apollo Program Essay, Research Paper

The Apollo Program (1963 – 1972)

“That’s one small step for a man, one giant leap for a mankind.” The national effort that enabled Astronaut Neil Armstrong to speak those words as he stepped onto the lunar surface, and fulfilled a dream as old as humanity. But Project Apollo’s goals went beyond landing Americans on the Moon and returning them safely to Earth. Some of the main goals of this experiment were: to establish the technology to meet other national interests in space; to achieve preeminence in space for the United States; to carry out a program of scientific ex- ploration of the Moon; and to even more develop man’s already excellent capability to work in the lunar environment.

Six of the missions achieved the goal of landing on the Moon, and safely returning to Earth. Apollos 7 and 9 were Earth orbiting missions to test the Command and Lunar Modules, and did not return lunar data. Apollos 8 and 10 tested various components while orbiting the Moon, and returned photography of the lunar surface. Apollo 13 did not land on the Moon at all due to a malfunction, but also returned photographs. The six missions that landed on the Moon returned a wealth of scientific data and almost 400 kilograms of lunar samples. Experiments included soil mechanics, meteoroids, seismic, heat flow, lunar ranging, magnetic fields, and solar wind experiments.

Apollo was a three-part spacecraft: the command module (CM), the crew’s quarters and flight control section; the service module (SM) for the propulsion and spacecraft support systems (when together, the two modules are called CSM); and the lunar module (LM), to take two of the crew to the lunar surface, support them on the Moon, and return them to the CSM in lunar orbit.

The flight mode, lunar orbit rendezvous, was selected in 1962. The boosters for the program were the Saturn IB for Earth orbit flights and the Saturn V for lunar flights.

Between the 1940’s and present day, some 30,000 inventions have been conceived, spawned, nurtured and developed in one way or another as a direct result of space exploration. Telecommunications, medical research, computer technology, agriculture, weather analysis forecasting and dozens of other industries have profited via the catalyst of space exploration. Not a lot of people would notice this, but every facet of life on Earth has been dramatically affected by what we’ve learned from the study of space.