Name:

Date:

History of NASA and American Spaceflight Notes

Early Years

* Late 1940’s
	+ in technology
	+ DOD researched and upper atmospheric sciences
* Dwight D. Eisenhower
	+ Plan to orbit a
	+ Scientific data about the Earth
	+ Part of the (IGY)
* follow suit

IGY Project

* Naval Research Laboratory
* Project
	+ Did not interfere with research
	+ - Non-military
	+ Military’s
		- Backup plan
* Not very successful
	+ to overcome technical challenges

Sputnik 1

* win the race to space
* Launch
	+
	+ October 4, 1957
* like effect on the American people
	+ Technological gap between U.S. and Soviets
	+ Justified on aerospace endeavors, technical and scientific , and to oversee these programs

Explorer 1

* U.S.’s first satellite
	+ Launched
	+
* Van Allen Radiation Belt
	+ Explorer 1 documented around the Earth
	+ Shaped by the
	+ Influences electrical charges in the atmosphere and amount of solar radiation
	+ Proved that research was

NASA

* The
	+ Begins operations on October 1, 1958
	+ “An act to provide for research into the problems of flight within and outside the Earth’s atmosphere, and other purposes.”
* Directly related to the pressures of
	+ between the U.S. and Soviet Union
		- Conflict over the and of nonaligned nations
	+ crisis
* Absorbed the
	+ 8000 employees
	+ $100 million budget
	+ Three major research laboratories and several organizations
		- Laboratory
		- Ames Aeronautical Laboratory
		- Laboratory
		- Space science group from the Naval Research Laboratory
		- Jet Propulsion Laboratory from the California Institute of Technology
		-
* Currently has 10 locations around the country

Project Mercury

* First high-profile program involving
	+ Next competition between U.S. and Soviets
	+ Wanted to learn if people could even
	+ Ran from 1959-1963
	+ Used as test subjects
* Cosmonaut
	+ win again, April of
	+ First to
	+
* + First to fly in space
	+ May 5, 1961
	+ 15-minute mission
* + orbits around the Earth
	+ Project Mercury met its
	+ February 20, 1962
		- Soviets did it in August of 1961
* Project ended in May of 1963
	+ men in space

Project Gemini

* Built and expanded on successes
	+ Spacecraft built for people
	+ 10 low Earth orbits between 1965 and 1966
		- Program spanned from 1961 until 1966
* Brought U.S. into the in the space race
	+
	+ Perfected procedures
	+ and in space
* Headed by
	+ Head of engineering at the (STG)
* Designed to develop the space technologies necessary for program
	+ Missions long enough for a
	+ - First U.S. space walk on June 4, 1965 by
	+ First program to use as mission control

Project Apollo

* “I believe that this nation should commit itself to achieving the goal, before the decade is out, of landing a man on the moon and returning him safely to Earth.”
- President John F. Kennedy, May 25, 1961
* Direct response to in space
	+ Used to demonstrate
* Next years spent accomplishing the goal
* VERY EXPENSIVE
	+ over the life of the program
	+ Building of the rivaled the cost of the Apollo program
		- Non-military technological endeavors
	+ - Wartime technological endeavors
* Project largely successful
	+ January 27, 1967 astronauts
		- Roger B. Chaffee, Virgil “Gus” Grissom, Edward H. White Jr.
* Apollo mission, October 1968
	+
	+ Tested the redesigned Apollo
* Apollo mission, December 24-25, 1968
	+
	+ Proved that we could
* Apollo
	+
	+ and
	+ Took soil samples, photographs, etc.
* Rendezvoused with ship in lunar orbit
	+ did not get to go down to the surface
	+ Returned to Earth without incident
* Apollo
	+ April 1970
	+ burst midway through their trip to the Moon
		-
	+ Proved that NASA had the ability to in VERY challenging situations
		- Ready for space travel
* astronauts walked on the Moon

Apollo-Soyuz

* First
	+ venture between the and the
	+ Took place in
	+ Launched separately from their respective countries
* Used to test joint and procedures
	+ Performed experiments for two days once docked

Space Shuttle

* NASA returned to spaceflight in
	+ Six year gap
* First mission STS-1
	+ April 12, 1981
	+ Proved the could take off and perform an landing
* STS – 6
	+ April 4-9, 1983
	+ and performed the
* STS – 7
	+ June 18, 1983
	+ became the to fly in space
* orbiter
	+ January 28, 1986
		- Grounded for over years to redesign
	+ returns to service
		- Flew missions
* orbiter
	+ February 1, 2003
	+ while returning to earth
		- Damage to reinforced on wing allowed into the shuttle
* Three shuttles
	+
	+ Enterprise currently retired in New York

Space Stations

* + Relatively small
	+ Post Apollo program, 1973
	+ Skylab missions
		- Crews stayed for days
	+ Proved people could and in space
* + Based on plans for a
	+ Joint planning began
	+ Construction began
		- Spent time on Russian to prepare for endeavor
	+ began with the launch of the crew on October 31 and docking on November 2, 2000