

# My Space Philatelic Collection



Years: 1500 - 1975

By Barry Zack

# What are “Space” Stamps?

## “Usual” Categories

- Rockets and Spaceships
- Robotic, Animal, and Human Exploration
- Astronomy, Astronomers, & Rocket Scientists
- Satellites
- Planets, Moons, Earth, and the Cosmos
- Future/Fantasy Space Events
- Historical Events
- US Eagle (with moon)

## My Extensions

- Books, Movies, and TV Shows
- Earth as a Planet
- Rocket Mail
- Significant Air Flight Events
- Physicists and Science/Engineering
- US Presidents (key ones)
- Levity

# About the Collection

## General Theme Collection

Organized by Timeline Event (sort of)

- US focused
- Additional material: USSR/Russia, other Foreign

Materials include:

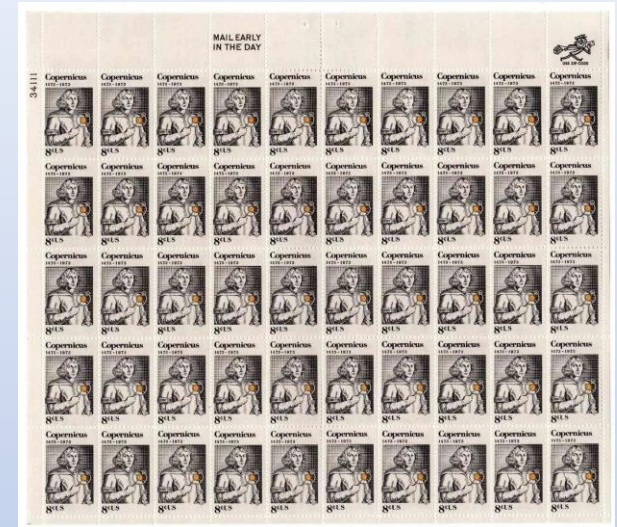
- Stamps, Bulletins, Souvenir Pages, Commemorative Panels, Ceremony Programs, FDC, Event Covers, PCS pages, Maxi Cards, Golden Replicas, Special Commemorative Material

# Legend of Wan Hu

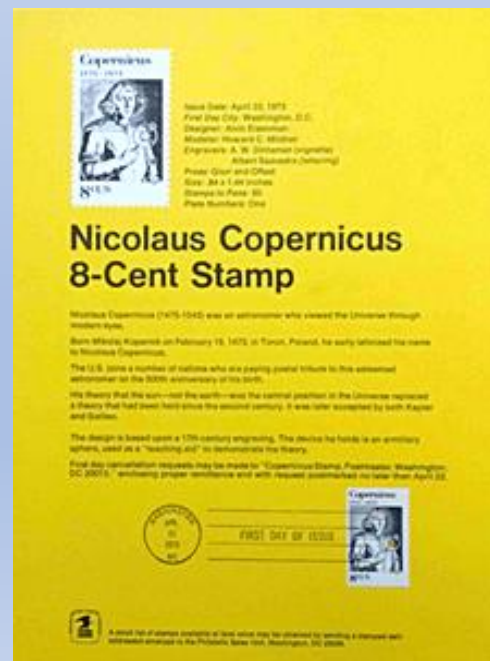




# Copernicus

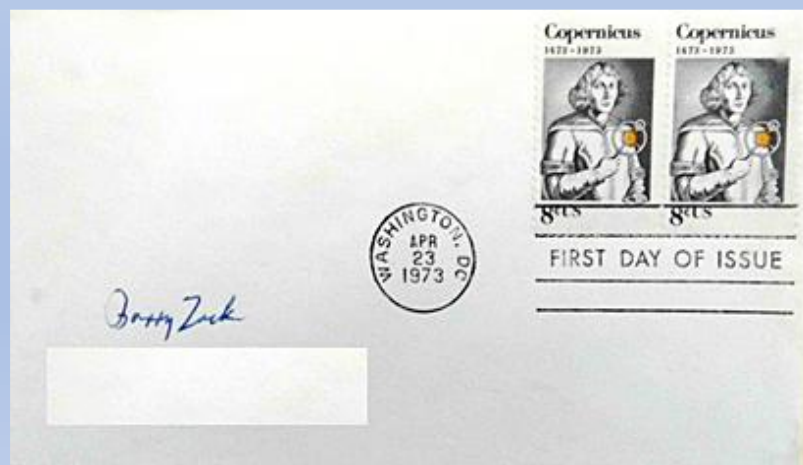
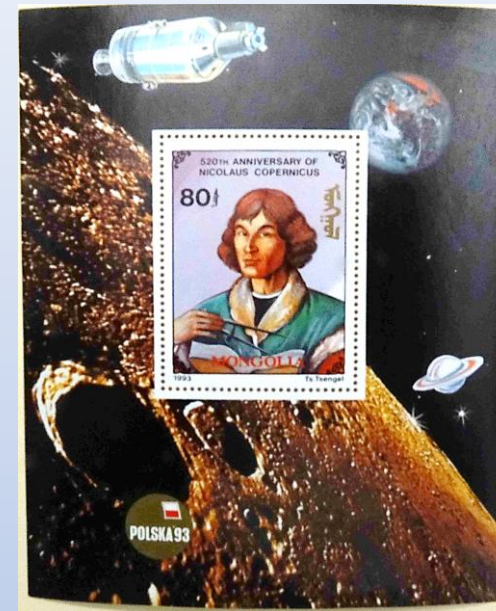
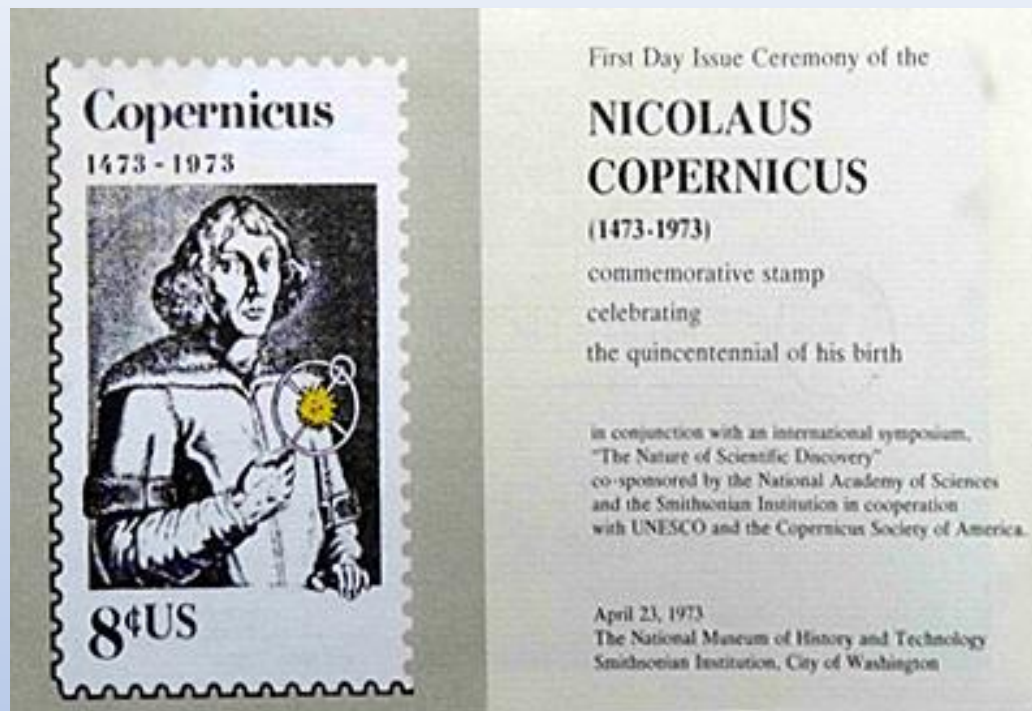


US 1488





# Copernicus



## ŚWIATOWA WYSTAWA FILATELISTYCZNA POLSKA 73



POZNAŃ, POLSKA  
19. 8 - 2. 9 1973



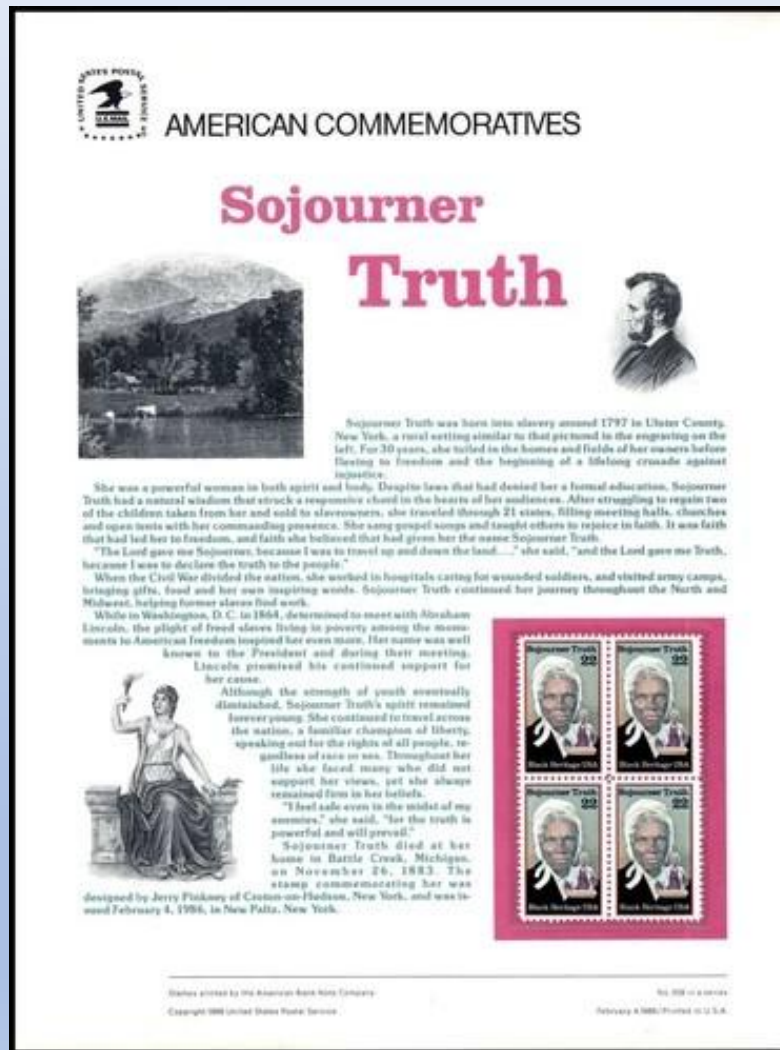
Karta niniejsza została wydana z okazji Światowej Wystawy Filatelistycznej w Poznaniu zorganizowanej celem uczczenia pięćsetcia urodzin genialnego astronoma epoki Odrodzenia, Mikołaja Kopernika.

Przedstawia ona 8-centowy znaczek pamiątkowy Poczty Stanów Zjednoczonych wydany 23 kwietnia 1973 roku oraz dwa pamiątkowe znaczki Kopernikowskie Poczty Polskiej.

*L. J. Korman*  
Postmaster General

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# Sojourner Truth



**Sojourner Truth**  
Abolitionist

Won first lawsuit to get her son back from slavery

Sojourner Truth Mars Rover landed July 4, 1997



# From the Earth to the Moon



CK 557a, 557b, 558a, 558b





# Rocket Scientists - Tsiolkovsky Equation



Konstantin Tsiolkovsky  
Equation: 1903  
SU 1582



Hermann Oberth  
Multi-Rockets: 1923  
PY 945

## Ideal Rocket Equation

$M$  = instantaneous mass of rocket      $A$  = exhaust area  
 $u$  = velocity of rocket      $p$  = exhaust pressure  
 $v$  = exhaust velocity      $p_0$  = atmospheric pressure  
 In time increment  $dt$ , exhausted mass =  $dm$       $dm = \dot{m} dt$   
 Change in momentum of system =  $M du - dm v$   
 Force on system =  $(p - p_0) A - M g \cos \alpha$  (neglect drag)  
 Change in momentum = Impulse = Force  $dt$   
 $M du - dm v = [(p - p_0) A - M g \cos \alpha] dt$   
 $M du = [(p - p_0) A + \dot{m} v] dt$  (neglect weight)  
 $V_{eq} = \text{equivalent exhaust velocity} = \frac{(p - p_0) A}{\dot{m}} + v$   
 $M du = V_{eq} \dot{m} dt = -V_{eq} dM$   
 $du = -V_{eq} \frac{dM}{M}$   
 $\Delta u = -V_{eq} \ln(M) \Big|_{mf}^{me}$       $MR = \text{propellant mass ratio} = \frac{mf}{me}$   

$\Delta u = V_{eq} \ln\left(\frac{mf}{me}\right) = V_{eq} \ln MR = I_{sp} g_0 \ln MR$

[Internet Picture Only]



Dr. Robert Goddard  
Equation: 1912  
US C69


# Henrietta Leavitt

American Astronomer

Discovered way to measure distances to stars up to 60 million light years away (1912)

Work was used by Edwin Hubble to measure Distances to other galaxies





**HENRIETTA SWAN LEAVITT**  
Born: July 4, 1868  
Died: December 12, 1921  
Place of birth: United States

© NASA

- Graduated from Radcliffe College in 1892
- Became deaf after college and before beginning her important work
- Worked at the Harvard College Observatory
- Discovered 2,400 variable stars
- Her work led to better ways of measuring the distance to far-off stars and galaxies
- Was nominated for a Nobel Prize in 1925



# Wright Brothers



US 649, 1928



Cancelled in 1929



Cancelled in 2022



# Rocket Mail



Rocket Mail Attempt  
September 22, 1935  
Greenwood Lake, NY



First US Inter-State Rocket Mail flight, Greenwood Lake, NY, February 23, 1936

# Bumper Program



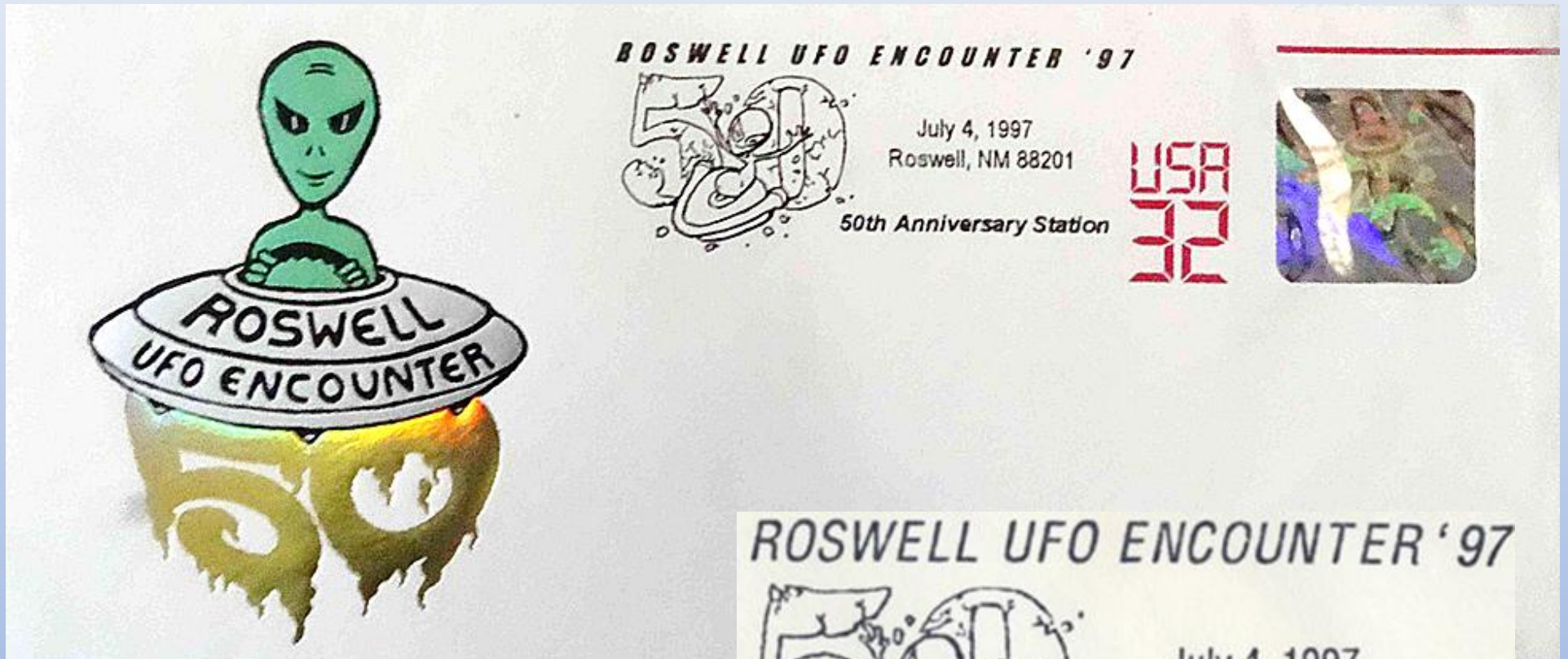
Bumper Test Flight

**25<sup>th</sup> ANNIVERSARY**  
**BUMPER 8**  
JULY 24<sup>th</sup> 1950  
9:29 A.M.  
**First  
Missile  
Launch  
From  
Cape  
Canaveral,  
Florida**  
1569 Major Cape Launches

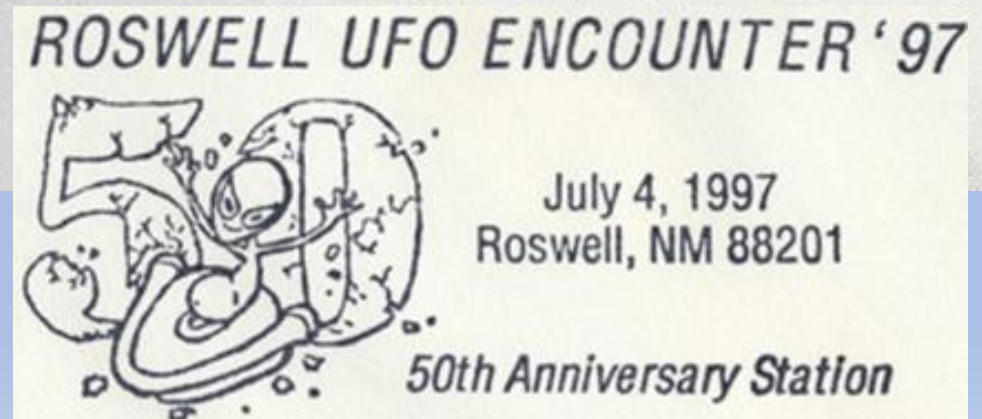


**5<sup>th</sup> ANNIVERSARY**  
**DEDICATION**  
U.S. AIR FORCE SPACE MUSEUM  
AT  
CAPE CANAVERAL AF STATION, FLA.

# The Roswell New Mexico Incident



Roswell UFO Incident 50<sup>th</sup> anniversary  
July 4, 1997





# The Space Age Begins



Sputnik 1  
October 4, 1957  
SU 1992

First  
Sputniks  
SU 2883



Explorer 1  
January 31, 1958



# Soviet Space Dogs



Laika - Sputnik 2  
January 3, 1957  
RO 1200



Belka and Strelka - Sputnik 5  
August 19, 1960  
SU 7247



Zvezdochka - Sputnik 10  
March 25, 1961  
SU 2491

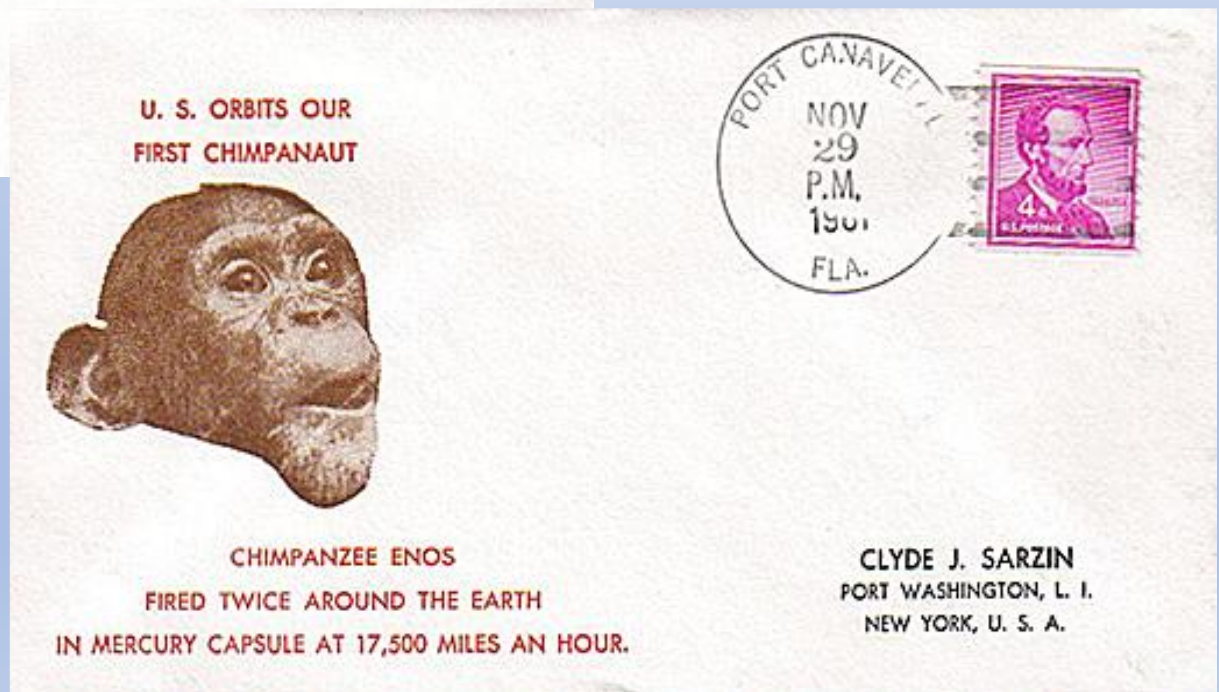


# US - Monkeys in Space



HAM  
Sub-orbital flight  
January 31, 1961  
Paved way for  
Alan Shepard

ENOS  
Orbital flight  
November 29, 1961  
Dress rehearsal for  
John Glenn





# USSR Cosmonauts



Yuri Gargarin  
Vostok 1 4/12/1961  
SU 2463 4/13/1961



Valentina Tereshkova  
Vostok 6, 6/16/1963  
SU 2749 5/20/1963



SU 2753



Yuri Gargarin  
SU 2889



Alexei Leonov  
Voshod 2, March 18, 1965  
First Spacewalk  
SU 3015



# Project Mercury



US 1193



Alan Shepard First US Sub-orbital Flight  
May 5, 1961



Captains Cover for MA8 - Schirra Flight  
October 3, 1962

John Glenn - First US Orbital Flight  
February 2, 1962

# Mercury 13



The Blue Origin New Shepard spacecraft was launched on July 20, 2021 in West Texas. On board was Wally Funk, Jeff Bezos his brother Mark Bezos and Oliver Daemen.



FOREVER 1 USA



Wally Funk, original Mercury 13 member, Blue Origin Flight



# Project Gemini



Decade of Achievement US 1434-1435



Gemini 4 - First US Spacewalk  
McDivitt and White June 3, 1965



Gemini 7 and 6A - First Spacecraft Rendezvous  
December 15, 1965

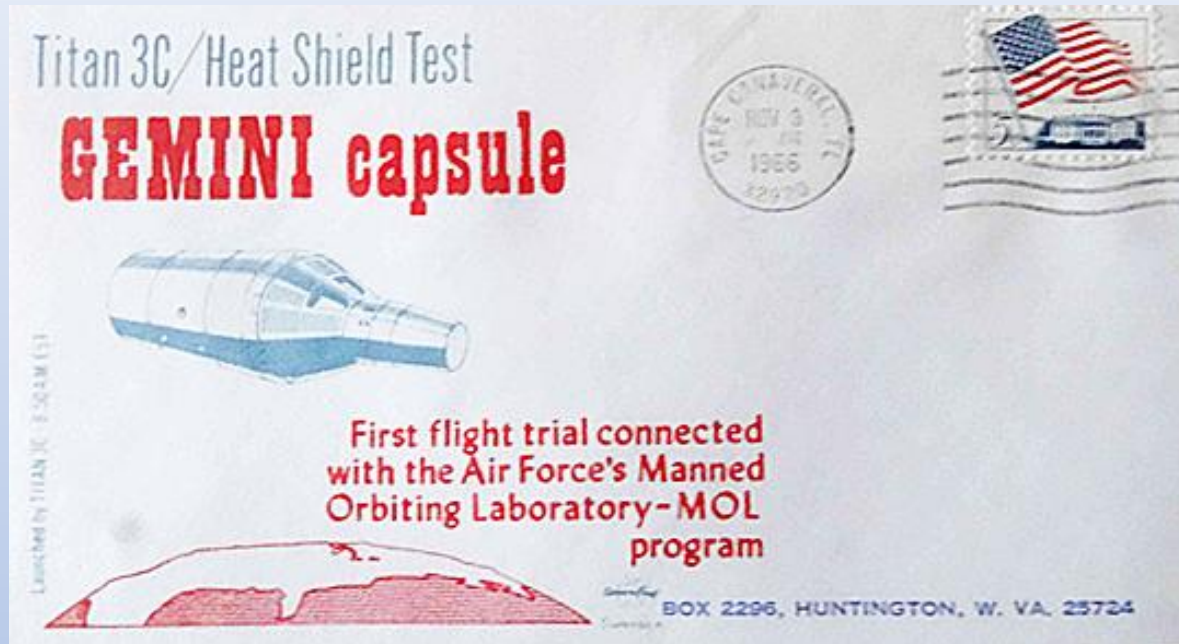


USS Boxer - Primary Recovery Ship  
Gemini 8 Mission



USS Leonard Mason - Actual Recovery Ship  
Ended March 17, 1966

# Project MOL



Test Flight November 3, 1966

- . USAF Test Pilot
- . PhD in Physical Chemistry
- . Selected as MOL Astronaut in 1967

## Manned Orbital Laboratory

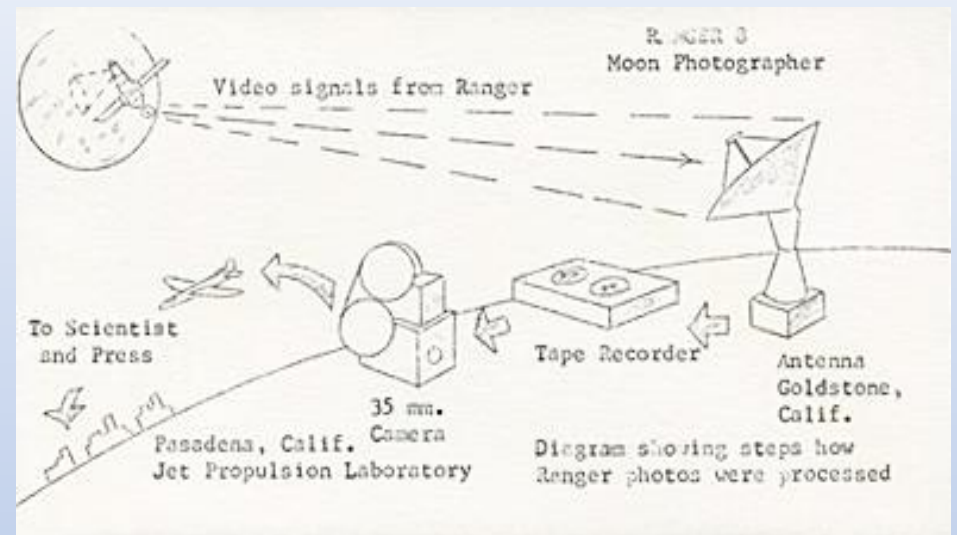
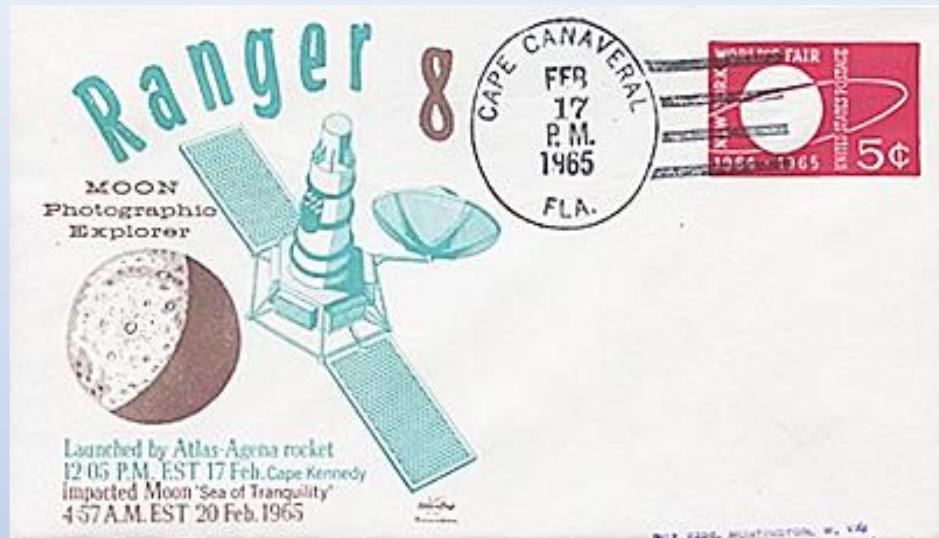
Demonstrate the utility of putting people in space for military missions



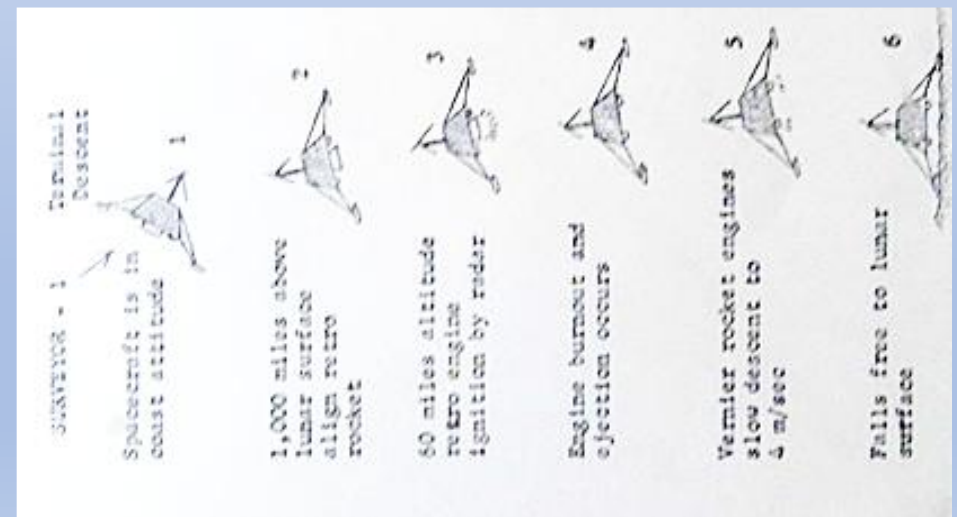
Major Robert Lawrence, Jr.  
[Internet Photo Only]



# Moon Robotic Explorers

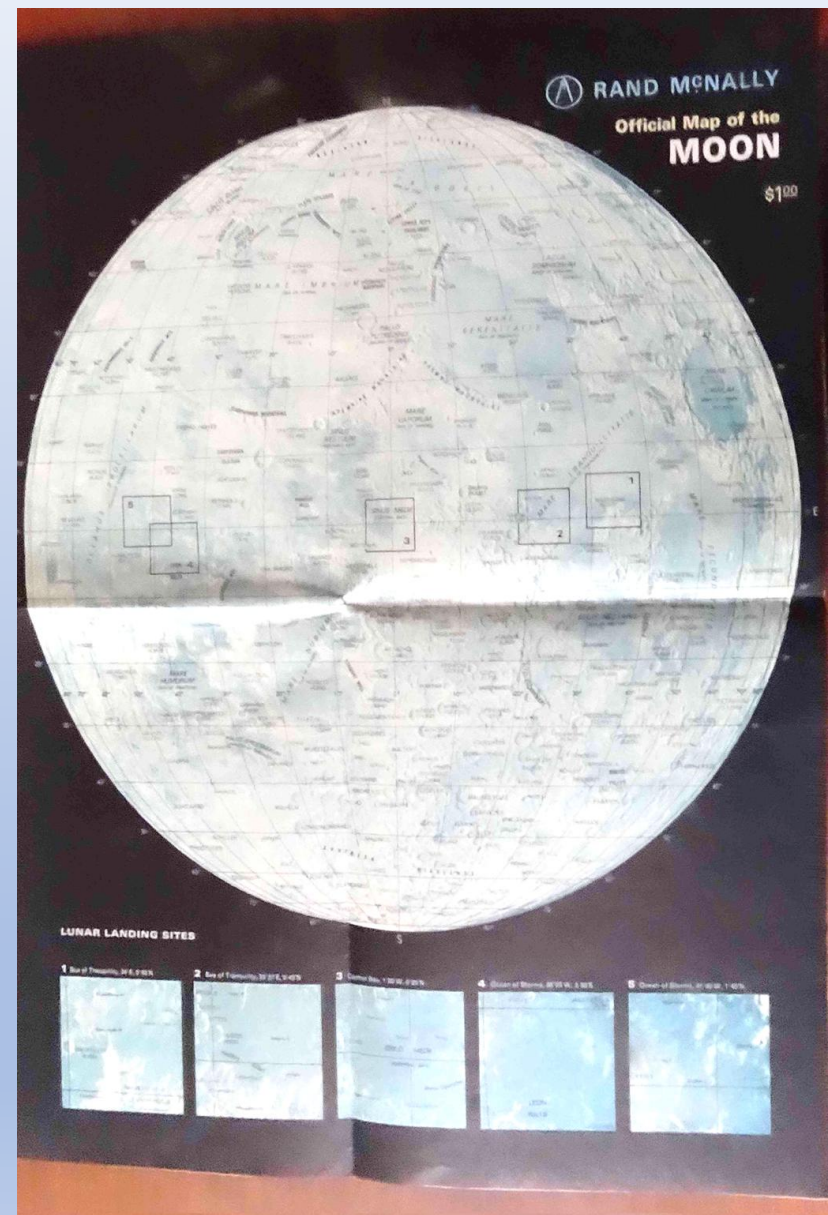
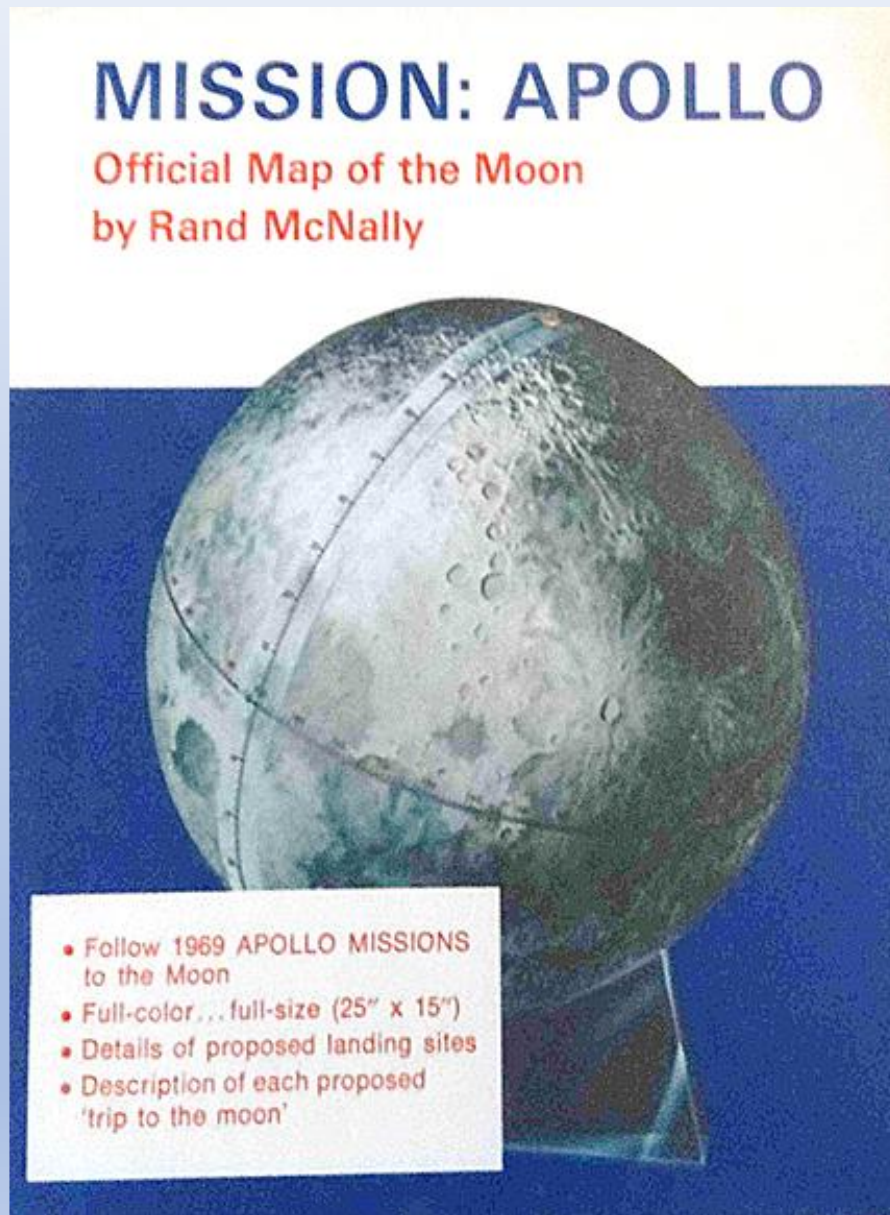


Ranger Program: Take first close up images of the surface of the Moon



Surveyor Program: Demonstrate ability to soft land on the moon

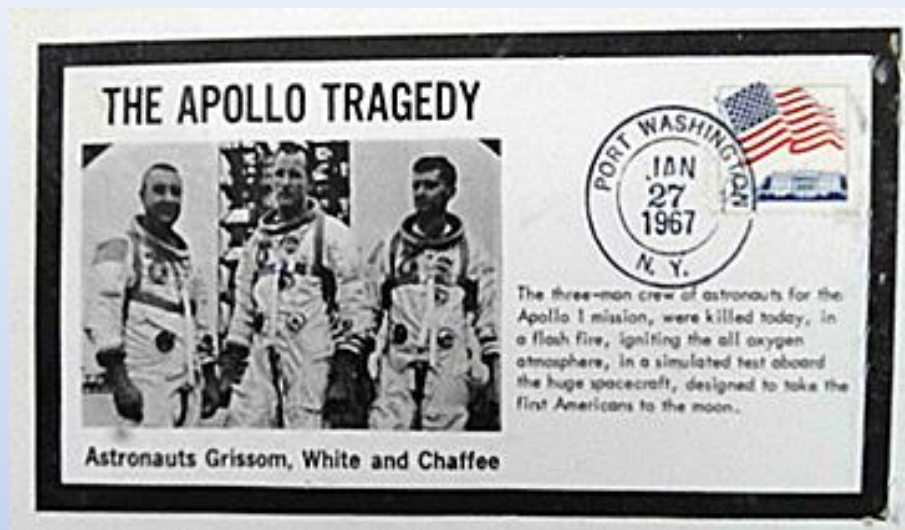
# Project Apollo - Moon Map



1969 Map with Proposed Manned Landing Sites



# Project Apollo



Apollo 1 Tragedy January 27, 1967  
Honoring Gus Grissom, Ed White, & Roger Chaffee



Apollo 8 – December, 1968



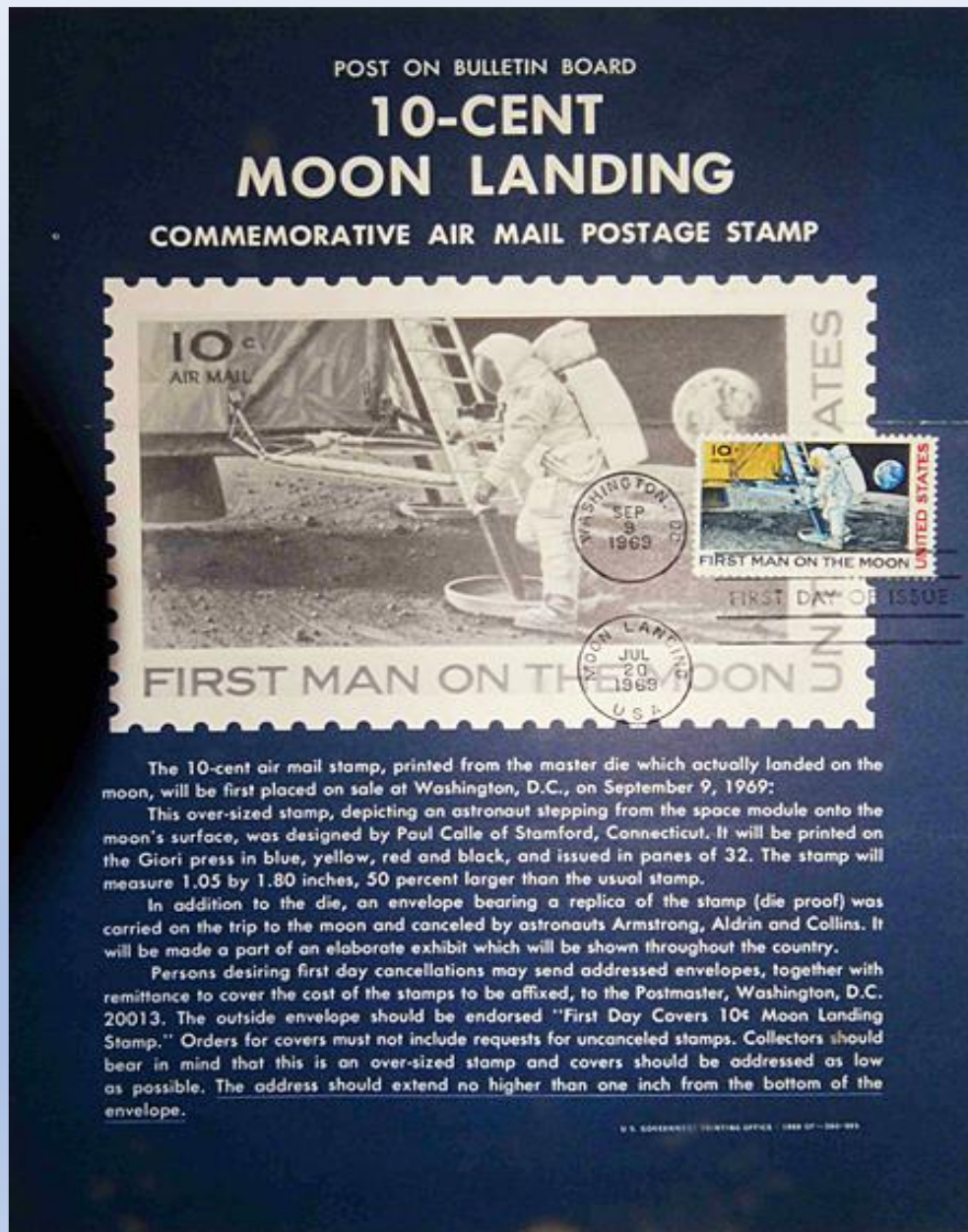
Apollo 13 - "Moon Landing" Cover



Apollo 13 - Vatican Cover



# Project Apollo



US 1371



US C76



US 3188c



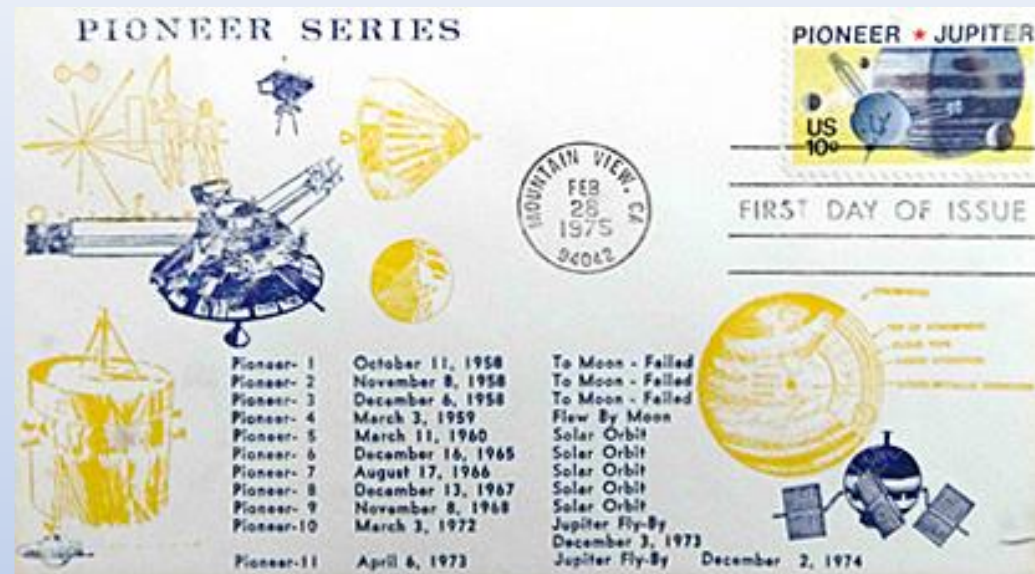
# Satellite Names



# Pioneer Program



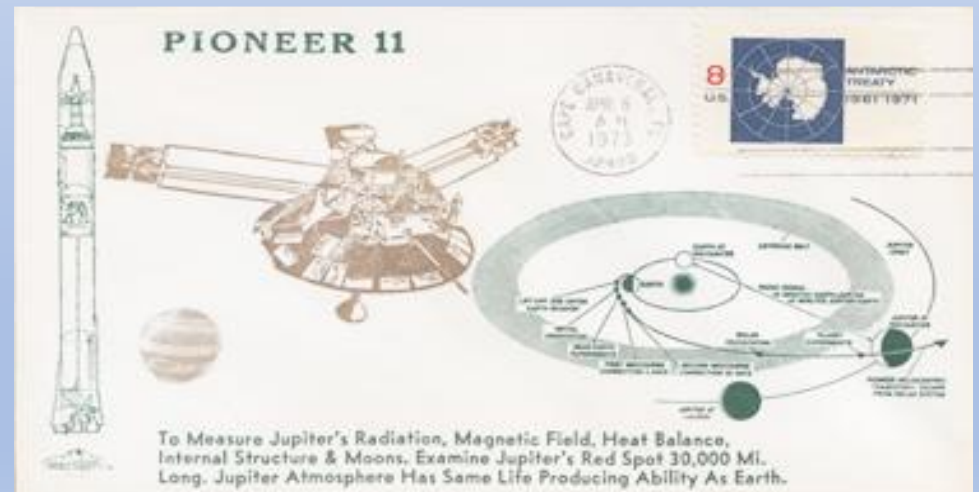
US 1556



Pioneer Program: 1962 - 1997



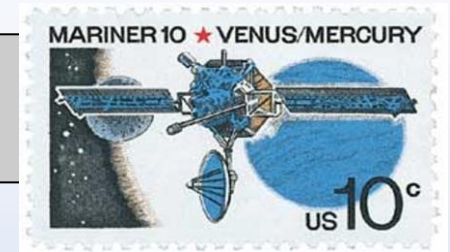
Launched March 3, 1972 First Probe to Jupiter



Launched April 5, 1973 First Probe to Saturn



# Mariner Program



US 1557



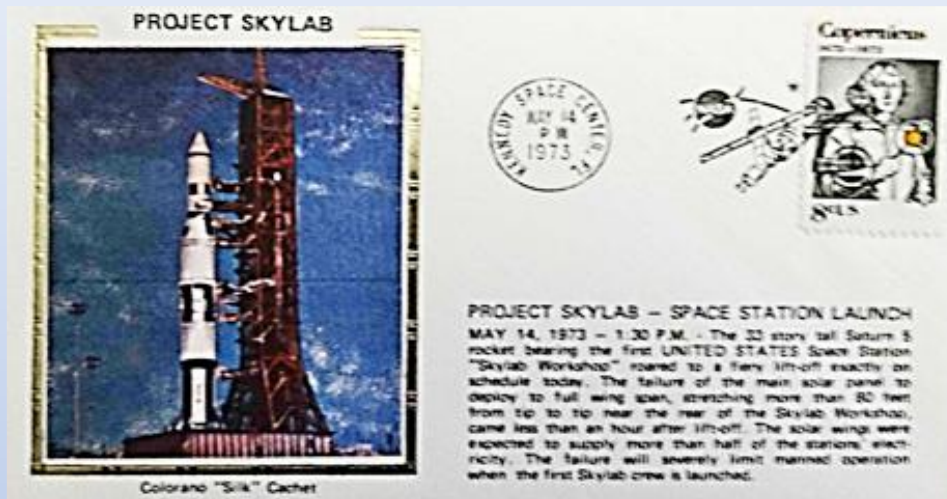
Mariner 10 Launched November 3, 1973  
First spacecraft to use a gravity assist trajectory



# Skylab



US 1529



Skylab Launch May 14, 1973



Skylab 4 Launch November 16, 1973



Maxi Card



# Apollo - Soyuz



US 1569-1570

Spacecrafts Docked  
July 17, 1975



SU 4339-4340





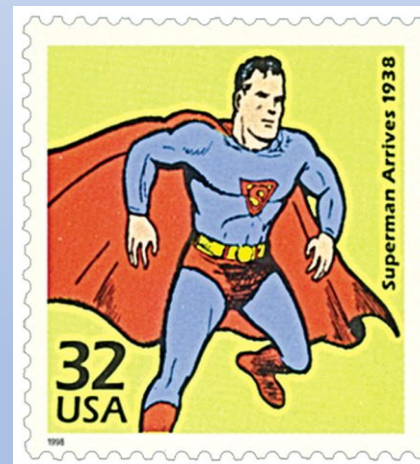
# Movies, Comics, and TV



Devils  
Tower  
US 1084,  
1956  
UFO  
location for  
“Close  
Encounters  
of the Third  
Kind”,  
11/16/1977



Flash Gordon - 1934 US 3000p



Superman - 1938  
US 3185f



Star Trek - 1966  
US 3188e