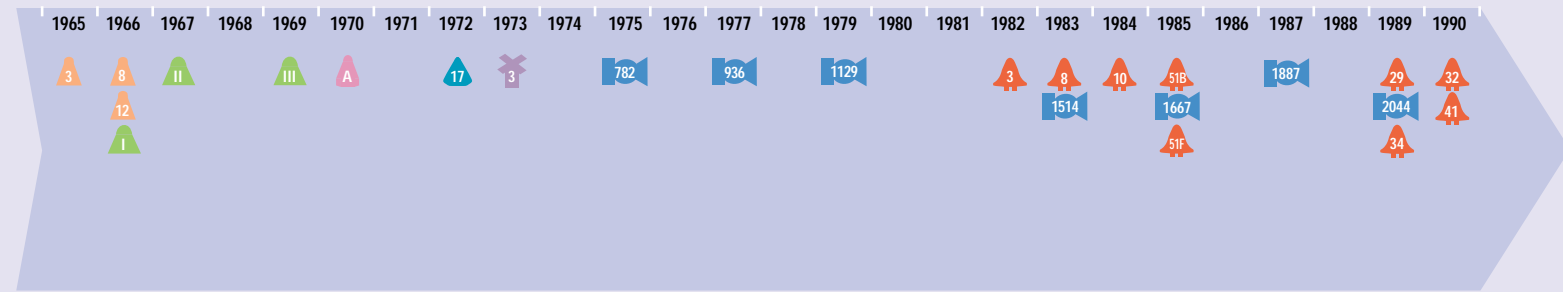


MISSION TIMELINE



MISSION CHRONOLOGY

Mission	Launch Date	Spacecraft/ Launch Vehicle	Payload	Duration	Experiments
Gemini 3	03 / 23 / 65	Gemini / Titan 2	Sea Urchin Experiment	5 hours	1
Gemini 8	03 / 16 / 66	Gemini / Titan 2	Frog Egg Package	11 hours	1
Gemini 12	11 / 11 / 66	Gemini / Titan 2	Frog Egg Package	4 days	1
Biosatellite I	12 / 14 / 66	Biosatellite / Thor Delta	Experiments Capsule	*	14
Biosatellite II	09 / 07 / 67	Biosatellite / Thor Delta	Experiments Capsule	2 days	14
Biosatellite III	06 / 28 / 69	Thor Delta	Primate Experiments Capsule	9 days	7
OFO-A	11 / 09 / 70	OFO / Scout	Frog Otolith Experiment Package (FOEP)	5 days	3
Apollo 17	12 / 17 / 72	Apollo / Saturn V	Biological Cosmic Ray Experiment (BIOCORE)	13 days	6
Skylab 3	07 / 28 / 73	Skylab / Saturn V / IB	Circadian Periodicity Experiment Package (CPE)	59 days	2
Cosmos 782	11 / 25 / 75	Cosmos C / Vostok (mod)	Bion 3	20 days	18
Cosmos 936	08 / 03 / 77	Cosmos C / Vostok (mod)	Bion 4	19 days	8
Cosmos 1129	09 / 25 / 79	Cosmos C / Vostok (mod)	Bion 5	19 days	19
STS-3	03 / 22 / 82	Columbia / STS	Office of Space Science 1 (OSS-1) ¹	8 days	1
STS-8	08 / 30 / 83	Challenger / STS	Student Shuttle Involvement Program (SSIP) ¹	6 days	1
Cosmos 1514	12 / 14 / 83	Cosmos C / Vostok (mod)	Bion 6	5 days	5
STS-10	02 / 03 / 84	Challenger / STS	Student Shuttle Involvement Program (SSIP) ¹	8 days	1
STS-51B	04 / 28 / 85	Challenger / STS	Spacelab 3 (SL-3) ²	7 days	30
Cosmos 1667	07 / 10 / 85	Cosmos C / Vostok (mod)	Bion 7	7 days	1
STS-51F	07 / 29 / 85	Challenger / STS	Spacelab 2 (SL-2) ²	8 days	1
Cosmos 1887	09 / 29 / 87	Cosmos C / Vostok (mod)	Bion 8	13 days	33
STS-29	03 / 13 / 89	Discovery / STS	Student Shuttle Involvement Program (SSIP) ¹	5 days	2
Cosmos 2044	09 / 15 / 89	Cosmos C / Vostok (mod)	Bion 9	14 days	48
STS-34	10 / 18 / 89	Atlantis / STS	Growth Hormone Concentration & Distribution (GHCD) ¹	5 days	1
STS-32	01 / 10 / 90	Columbia / STS	Characterization of Neurospora Circadian Rhythm (CNCR) ¹	11 days	1
STS-41	10 / 01 / 90	Discovery / STS	Physiological Systems Experiment 1 (PSE.01) ¹	4 days	1

ORGANISMS FLOWN

VERTEBRATES: Adults or Juveniles

Bullfrog (<i>Rana catesbeiana</i>)	
Pig-tailed monkey (<i>Macaca nemestrina</i>)	
Pocket mouse (<i>Perognathus longimembris</i>)	
Rat (<i>Rattus norvegicus</i>)	
Rhesus monkey (<i>Macaca mulatta</i>)	
Squirrel monkey (<i>Saimiri sciureus</i>)	

VERTEBRATES: Embryonic Forms

Frog (<i>Rana pipiens</i>) egg	
Japanese quail (<i>Coturnix coturnix</i>) egg	
Rat (<i>Rattus norvegicus</i>)	
Walbaum fish (<i>Fundulus heteroclitus</i>) roe	

INVERTEBRATES: Adults or Juveniles

Fruit fly (<i>Drosophila melanogaster</i>)	
Parasitic wasp (<i>Habrobracon juglandis</i>)	

INVERTEBRATES: Embryonic Forms

Flour beetle (<i>Tribolium confusum</i>) pupa	
Fruit fly (<i>Drosophila melanogaster</i>) larva	
Sea urchin (<i>Arbacia punctulata</i>) egg	

PLANTS

Carrot (<i>Daucus carota</i>) tissue and/or cell	
Corn (<i>Zea mays</i>) seedling	
Flowering (<i>Tradescantia</i>) plant	
Mung bean (<i>Vigna radiata</i>) seedling	
Oat (<i>Avena sativa</i>) seedling	
Pepper (<i>Capsicum annuum</i>) plant	
Pine (<i>Pinus ellioti</i>) seedling	
Wheat (<i>Triticum vulgare</i>) seedling	

UNICELLULAR FORMS

Amoeba (<i>Pelomyxa carolinensis</i>)	
Bacteria (<i>Escherichia coli</i>)	
Bacteria (<i>Salmonella typhimurium</i>)	
Slime mold (<i>Neurospora crassa</i>)	

LEGEND

SPACECRAFT:

- Gemini
- Biosatellite
- OFO
- Apollo
- Skylab
- Cosmos
- Shuttle
- Shuttle-Mir

CATEGORY DEFINITIONS:

Payload – Experiment package
Spacecraft – Pressurized vehicle containing the payload

ACRONYMS:

OFO – Orbiting Frog Otolith
STS – Space Transportation System

STS / SHUTTLE-MIR

PAYLOAD LOCATIONS:
¹ Payload flown on Shuttle Middeck
² Payload flown in Spacelab
³ Payload flown in SPACEHAB
⁴ Payload delivered to Mir

OTHER DESIGNATIONS:

* Payload not recovered
** Payload damaged in Progress/Mir collision

TOTAL PAYLOADS FLOWN:

1965-1990: 25
1991-1998: 51

TOTAL EXPERIMENTS FLOWN:

1965-1990: 220
1991-1998: 213

