

# **Spacecraft**

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	<i>TITLE :</i> Spacecraft		
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**REVISION HISTORY**

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## Chapter 1

# Spacecraft

### 1.1 Index of Spacecraft

More detailed information is available for the following ←  
spacecraft:

Probe -----	Date launched -----	Object(s) studied -----
Able 1 Aug. 17/58	Moon	
Able 4 Nov. 26/59	Moon	
Able 5A Sep. 25/60	Moon	
Able 5B Dec. 15/60	Moon	
Alouette 1		Earth satellite
Alouette 1 Rocket/Body		Earth satellite
Alouette 2 Rocket/Body		Earth satellite
AMPTE Rocket/Body		Earth satellite
Apollo 7 Oct. 11/68	Earth orbit	
Apollo 8 Dec. 21/68	Moon	
Apollo 9 Mar. 3/69	Earth orbit	
Apollo 10 May 18/69	Moon	
Apollo 11 Jul. 16/69	Moon	
Apollo 12		

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	Nov. 14/69	Moon	
Apollo 13			
	Apr. 11/69	Moon	
Apollo 14			
	Jan. 31/71	Moon	
Apollo 15			
	Jul. 26/71	Moon	
Apollo 16			
	Apr. 16/72	Moon	
Apollo 17			
	Dec. 7/72	Moon	
Astro 3			Earth satellite
Atmosphere 1			Earth satellite
Atmosphere 2			Earth satellite
Cassini			
	Oct. 6/97	Saturn	
Centaur 2			Earth satellite
Clementine			
	Jan. 25/94	Moon	
COBE			Earth satellite
Comstar 1 Rocket/Body			Earth satellite
Copernicus (OAO 3)			Earth satellite
Copernicus (OAO 3) Rocket/Body			Earth satellite
Cosmos 382			Earth satellite
Cosmos 398			Earth satellite
Cosmos 825-832 Rocket/Body			Earth satellite
Cosmos 871-878 Rocket/Body			Earth satellite
Cosmos 939-946 Rocket/Body			Earth satellite
Cosmos 1051-1058 Rocket/Body			Earth satellite
Cosmos 1076			Earth satellite
Cosmos 1130-1137 Rocket/Body			Earth satellite
Cosmos 1151			Earth satellite
Cosmos 1171 Rocket/Body			Earth satellite
Cosmos 1320-1327 Rocket/Body			Earth satellite
Cosmos 1473-1480 Rocket/Body			Earth satellite
Cosmos 1500			Earth satellite
Cosmos 1522-1529 Rocket/Body			Earth satellite
Cosmos 1602			Earth satellite
Cosmos 1603			Earth satellite
Cosmos 1635-1642 Rocket/Body			Earth satellite
Cosmos 1697			Earth satellite
Cosmos 1697 Rocket/Body			Earth satellite
Cosmos 1745 Rocket/Body			Earth satellite
Cosmos 1794-1801 Rocket/Body			Earth satellite
Cosmos 1833			Earth satellite
Cosmos 1833 Rocket/Body			Earth satellite
Cosmos 1844			Earth satellite
Cosmos 1844 Rocket/Body			Earth satellite
Cosmos 1852-1859 Rocket/Body			Earth satellite
Cosmos 1861			Earth satellite

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Cosmos 1900		Earth satellite
Cosmos 1924-1931	Rocket/Body	Earth satellite
Cosmos 1934	Rocket/Body	Earth satellite
Cosmos 1943		Earth satellite
Cosmos 1943	Rocket/Body	Earth satellite
Cosmos 1954	Rocket/Body	Earth satellite
Cosmos 1980		Earth satellite
Cosmos 1980	Rocket/Body	Earth satellite
Cosmos 2004		Earth satellite
Cosmos 2004	Rocket/Body	Earth satellite
Cosmos 2008-2015	Rocket/Body	Earth satellite
Cosmos 2016		Earth satellite
Cosmos 2016	Rocket/Body	Earth satellite
Cosmos 2026		Earth satellite
Cosmos 2026	Rocket/Body	Earth satellite
Cosmos 2027		Earth satellite
Cosmos 2034		Earth satellite
Cosmos 2034	Rocket/Body	Earth satellite
Cosmos 2037	Rocket/Body	Earth satellite
Cosmos 2046		Earth satellite
Cosmos 2056		Earth satellite
Cosmos 2056	Rocket/Body	Earth satellite
Cosmos 2058		Earth satellite
Cosmos 2060		Earth satellite
Cosmos 2061		Earth satellite
Cosmos 2061	Rocket/Body	Earth satellite
Cosmos 2064-2071	Rocket/Body	Earth satellite
Cosmos 2074		Earth satellite
Cosmos 2075	Rocket/Body	Earth satellite
Cosmos 2082		Earth satellite
Cosmos 2082	Rocket/Body	Earth satellite
Cosmos 2084		Earth satellite
Cosmos 2084	Rocket/Body	Earth satellite
Cosmos 2098	Rocket/Body	Earth satellite
Courier 1-B	Rocket/Body	Earth satellite
CRRES		Earth satellite
Delta Star		Earth satellite
DMSP 2-3		Earth satellite
DMSP 2-4		Earth satellite
DMSP 2-5		Earth satellite
Echo 2	Rocket/Body	Earth satellite
EGP/AJISAI		Earth satellite
EGP	Rocket/Body	Earth satellite
ERBS		Earth satellite
Exosat	Rocket/Body	Earth satellite
	Explorer 33	
	Jul. 1/66	Moon
	Explorer 35	
	Jul. 19/67	Moon
	Explorer 49	
	Jun. 10/73	Sun
Feng Yun 1-A		Earth satellite
Feng Yun 1-B		Earth satellite
Feng Yun 1-B	Rocket/Body	Earth satellite

Fltsatcom 4 Rocket/Body		Earth satellite
Galileo		
Oct. 18/89	Venus, Earth, Moon, Gaspra,	Ida, Jupiter, Io, Ganymede,
		Callisto, Europa
Gamma		Earth satellite
Geosat		Earth satellite
Giotto		
Jul. 2/85	Comet Halley,	Comet Grigg-Skjellerup
Goes 3 Rocket/Body		Earth satellite
Goes 6 Rocket/Body		Earth satellite
GPS 2-4 Rocket/Body		Earth satellite
GPS 2-5 Rocket/Body		Earth satellite
GPS 2-6 Rocket/Body		Earth satellite
GPS 2-10 Rocket/Body		Earth satellite
Helios 1		
Dec. 10/74	Sun	
Helios 2		
Jan. 15/76	Sun	
Hiten		
Jan, 1990	Moon	
Hubble Space Telescope		Earth satellite
ICE		
Aug. 12/78	Sun, Earth,	Comet Giacobini-Zinner
Inmarsat 2-1 Rocket/Body		Earth satellite
Intelsat 4-1 Rocket/Body		Earth satellite
Intelsat 4A-1 Rocket/Body		Earth satellite
Intelsat 5-1 Rocket/Body		Earth satellite
Intelsat 5-3 Rocket/Body		Earth satellite
Intelsat 6-3		Earth satellite
Intercosmos 19 Rocket/Body		Earth satellite
Intercosmos 24		Earth satellite
Intercosmos 24 Rocket/Body		Earth satellite
IRAS		Earth satellite
IRAS Rocket/Body		Earth satellite
JCSAT 2 Rocket/Body		Earth satellite
Kosmos 21		
Nov. 11/63	Venus	
Kosmos 27		
Mar. 26/64	Venus	
Kosmos 60		
Mar. 12/65	Moon	
Kosmos 96		
Nov. 23/65	Venus	

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Kosmos 111	Mar. 1/66	Moon	
Kosmos 146	Mar. 10/67	Moon	
Kosmos 154	Apr. 8/67	Moon	
Kosmos 167	Jun. 17/67	Venus	
Kosmos 300	Sep. 23/69	Moon	
Kosmos 305	Oct. 22/69	Moon	
Kosmos 382	Dec. 2/70	Moon	
Kosmos 419	May 10/71	Mars	
Kosmos 482	Mar. 31/72	Venus	
LACE			Earth satellite
Lacrosse 1			Earth satellite
Lageos			Earth satellite
Landsat 1			Earth satellite
Landsat 2			Earth satellite
Landsat 3			Earth satellite
Landsat 4			Earth satellite
Landsat 5			Earth satellite
Leasat 1	Rocket/Body		Earth satellite
Leasat 2	Rocket/Body		Earth satellite
Leasat 3	Rocket/Body		Earth satellite
Leasat 4	Rocket/Body		Earth satellite
Leasat 5	Rocket/Body		Earth satellite
Luna 1	Jan. 2/59	Moon	
Luna 2	Sep. 12/59	Moon	
Luna 3	Oct. 4/59	Moon	
Luna 4	Apr. 2/63	Moon	
Luna 5	May 9/65	Moon	
Luna 6	Jun. 8/65	Moon	

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Luna 7	Oct. 4/65	Moon
Luna 8	Dec. 3/65	Moon
Luna 9	Jan. 31/66	Moon
Luna 10	Mar. 31/66	Moon
Luna 11	Aug. 24/66	Moon
Luna 12	Oct. 22/66	Moon
Luna 13	Dec. 21/66	Moon
Luna 14	Apr. 7/68	Moon
Luna 15	Jul. 13/69	Moon
Luna 16	Sep. 12/70	Moon
Luna 17	Nov. 10/70	Moon
Luna 18	Sep. 2/71	Moon
Luna 19	Sep. 28/71	Moon
Luna 20	Feb. 14/72	Moon
Luna 21	Jan. 8/73	Moon
Luna 22	May 29/74	Moon
Luna 23	Oct. 28/74	Moon
Luna 24	Aug. 9/76	Moon
Lunar Orbiter 1	Aug. 10/66	Moon

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Lunar Orbiter 2	Nov. 6/66	Moon	
Lunar Orbiter 3	Feb. 5/67	Moon	
Lunar Orbiter 4	May 4/67	Moon	
Lunar Orbiter 5	Aug. 1/67	Moon	
Magellan	May 4/89	Venus	
MAO 1 Rocket/Body			Earth satellite
Mariner 1	Jul. 22/62	Venus	
Mariner 2	Aug. 27/62	Venus	
Mariner 3	Nov. 5/64	Mars	
Mariner 4	Nov. 28/64	Mars	
Mariner 5	Jun. 14/67	Venus	
Mariner 6	Feb. 24/69	Mars	
Mariner 7	Mar. 27/69	Mars	
Mariner 8	May 8/71	Mars	
Mariner 9	May 30/71	Mars	
Mariner 10	Nov. 3/73	Moon, Mercury, Venus	
Mars 1	Nov. 1/62	Mars	
Mars 2	May 19/71	Mars	
Mars 3	May 28/71	Mars	
Mars 4			

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	Jul. 21/73	Mars	
Mars 5	Jul. 25/73	Mars	
Mars 6	Aug. 5/73	Mars	
Mars 7	Aug. 9/73	Mars	
Mars 96	1996	Mars	
Mars 98	1998	Mars	
Mars 1969A	Mar. 27/69	Mars	
Mars 1969B	Apr. 14/69	Mars	
Mars Observer	Sep. 25/92	Mars	
Mars Pathfinder	Dec. 1996	Mars	
Mars Surveyor	Nov. 1996	Mars	
Meteor 2-12			Earth satellite
Meteor 2-13			Earth satellite
Meteor 2-16			Earth satellite
Meteor 2-16	Rocket/Body		Earth satellite
Meteor 2-17			Earth satellite
Meteor 2-17	Rocket/Body		Earth satellite
Meteor 2-18			Earth satellite
Meteor 2-19			Earth satellite
Meteor 3-1			Earth satellite
Meteor 3-2			Earth satellite
Meteor 3-3			Earth satellite
Mir Complex			Earth satellite
Miranda	Rocket/Body		Earth satellite
MOS 1-A			Earth satellite
MOS 1-B			Earth satellite
MOS 1-B	Rocket/Body		Earth satellite
Nadezhda 1			Earth satellite
Nadezhda 2			Earth satellite
Nadezhda 2	Rocket/Body		Earth satellite
Nimbus 2	Rocket/Body		Earth satellite
Nimbus 6	Rocket/Body		Earth satellite
Nimbus 7			Earth satellite
NOAA 1	Rocket/Body		Earth satellite
NOAA 7			Earth satellite
NOAA 8			Earth satellite
NOAA 9			Earth satellite

NOAA 10	Earth satellite
NOAA 11	Earth satellite
OA0 1	Earth satellite
OA0 1 Rocket/Body	Earth satellite
OA0 2	Earth satellite
OA0 2 Rocket/Body	Earth satellite
Okean 1	Earth satellite
Okean 2	Earth satellite
Orizuru (Debut)	Earth satellite
Pageos DA	Earth satellite
Pageos H	Earth satellite
Pageos Rocket/Body	Earth satellite
Palapa 4 Rocket/Body	Earth satellite
Palapa 6 Rocket/Body	Earth satellite
Pegsat	Earth satellite

Phobos 1		
Jul. 7/88	Mars	
Phobos 2		
Jul. 12/88	Mars	
Pioneer 1		
Oct. 11/58	Moon	
Pioneer 2		
Nov. 8/58	Moon	
Pioneer 3		
Dec. 6/58	Moon	
Pioneer 4		
Mar. 3/59	Moon	
Pioneer 6		
Dec. 16/65	Sun	
Pioneer 7		
Aug. 17/66	Sun	
Pioneer 8		
Dec. 13/67	Sun	
Pioneer 9		
Nov. 8/68	Sun	
Pioneer 10		
Mar. 3/72	Jupiter	
Pioneer 11		
Apr. 6/73	Jupiter, Saturn	
Pioneer 12		
May 20/78	Venus	
Pioneer E		
Aug. 27/69	Sun	



	Pluto Fast Flyby 1999	Pluto	
Polar Bear			Earth satellite
	Ranger 3 Jan. 26/62	Moon	
	Ranger 4 Apr. 23/62	Moon	
	Ranger 5 Oct. 18/62	Moon	
	Ranger 6 Jan. 30/64	Moon	
	Ranger 7 Jul. 28/64	Moon	
	Ranger 8 Feb. 17/65	Moon	
	Ranger 9 Mar. 21/65	Moon	
RME			Earth satellite
Rosat			Earth satellite
Rosat Rocket/Body			Earth satellite
	Sakigake Jan. 7/85	Comet Halley	
Sakura Rocket/Body			Earth satellite
Satcom 6 Rocket/Body			Earth satellite
Seasat			Earth satellite
SERT 2			Earth satellite
Sirio Rocket/Body			Earth satellite
SME			Earth satellite
SME Rocket/Body			Earth satellite
Solrad 7A/Secor 1 Rocket/Body			Earth satellite
Solrad 7B/Secor 3 Rocket/Body			Earth satellite
Spot 2			Earth satellite
Spot 2 Rocket/Body			Earth satellite
	Sputnik 7 Feb. 4/61	Venus	
Starlette			Earth satellite
	Suisei Aug. 18/85	Comet Halley	
	Surveyor 1 Apr. 30/66	Moon	
	Surveyor 2 Sep. 20/66	Moon	
	Surveyor 3		

	Apr. 17/67	Moon	
Surveyor 4			
	Jul. 14/67	Moon	
Surveyor 5			
	Sep. 8/67	Moon	
Surveyor 6			
	Nov. 7/67	Moon	
Surveyor 7			
	Jan. 7/68	Moon	
Timation 1 Rocket/Body			Earth satellite
Timation 2 Rocket/Body			Earth satellite
Transit 2-A Rocket/Body			Earth satellite
Ulysses			
	Oct. 6/90	Sun, Jupiter	
Ulysses Rocket/Body			Earth satellite
Unannounced			
	Various	Various	
UME 1			Earth satellite
UME 1 Rocket/Body			Earth satellite
UME 2			Earth satellite
UME 2 Rocket/Body			Earth satellite
Vanguard 1			Earth satellite
Vanguard 1 Rocket/Body			Earth satellite
Vanguard 3			Earth satellite
Vega 1			
	Dec. 15/84	Venus, Comet Halley	
Vega 2			
	Dec. 21/84	Venus, Comet Halley	
Venera 1			
	Feb. 21/61	Venus	
Venera 2			
	Nov. 12/65	Venus	
Venera 3			
	Nov. 16/65	Venus	
Venera 4			
	Jun. 12/67	Venus	
Venera 5			
	Jan. 5/69	Venus	
Venera 6			
	Jan. 10/69	Venus	
Venera 7			
	Aug. 17/70	Venus	

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Venera 8	Mar. 27/72	Venus
Venera 9	Jun. 8/75	Venus
Venera 10	Jun. 14/75	Venus
Venera 11	Sep. 9/78	Venus
Venera 12	Sep. 14/78	Venus
Venera 13	Oct. 30/81	Venus
Venera 14	Nov. 4/81	Venus
Venera 15	Jun. 2/83	Venus
Venera 16	Jun. 7/83	Venus
Viking 1	Aug. 20/75	Mars
Viking 2	Sep. 9/75	Mars
Voyager 1	Sep. 5/77	Jupiter, Saturn, and moons of these 2 planets.
Voyager 2	Aug. 20/77	Jupiter, Saturn, Uranus, Neptune, and their moons.
Westar 6 Rocket/Body		Earth satellite
Yuri Rocket/Body		Earth satellite
Zond 1	Apr. 2/64	Venus
Zond 2	Nov. 30/64	Venus
Zond 3	Jul. 18/65	Moon
Zond 4	Jul. 18/65	Moon
Zond 5		

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	Sep. 14/68	Moon
Zond 6		
	Nov. 10/68	Moon
Zond 7		
	Aug. 8/69	Moon

## 1.2 Able 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.3 Able 4

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.4 Able 5A

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## 1.5 Able 5B

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## 1.6 Apollo 7

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## 1.7 Apollo 8

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## 1.8 Apollo 9

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## 1.9 Apollo 10

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## 1.10 Apollo 11

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## 1.11 Apollo 12

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## 1.12 Apollo 13

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## 1.13 Apollo 14

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## 1.14 Apollo 15

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## 1.15 Apollo 16

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.16 Apollo 17

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.17 Cassini

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.18 Clementine

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

## 1.19 Explorer 33

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## 1.20 Explorer 35

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## 1.21 Explorer 49

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## 1.22 Galileo (spacecraft)

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## 1.23 Giotto

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## 1.24 Helios 1

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## 1.25 Helios 2

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## 1.26 Hiten

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## 1.27 ICE (International Cometary Explorer)

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## 1.28 Kosmos 21

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### **1.29 Kosmos 27**

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### **1.30 Kosmos 60**

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### **1.31 Kosmos 96**

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### **1.32 Kosmos 111**

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### **1.33 Kosmos 146**

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### **1.34 Kosmos 154**

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### **1.35 Kosmos 167**

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### **1.36 Kosmos 300**

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### **1.37 Kosmos 305**

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### **1.38 Kosmos 382**

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### **1.39 Kosmos 419**

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### **1.40 Kosmos 482**

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### **1.41 Luna 1**

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### **1.42 Luna 2**

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### **1.43 Luna 3**

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### **1.44 Luna 4**

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### **1.45 Luna 5**

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### **1.46 Luna 6**

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### **1.47 Luna 7**

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### **1.48 Luna 8**

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### **1.49 Luna 9**

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## 1.50 Luna 10

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## 1.51 Luna 11

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## 1.52 Luna 12

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## 1.53 Luna 13

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## 1.54 Luna 14

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## 1.55 Luna 15

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## 1.56 Luna 16

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### **1.57 Luna 17**

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### **1.58 Luna 18**

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### **1.59 Luna 19**

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### **1.60 Luna 20**

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### **1.61 Luna 21**

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### **1.62 Luna 22**

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### **1.63 Luna 23**

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## 1.64 Luna 24

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## 1.65 Lunar Orbiter 1

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## 1.66 Lunar Orbiter 2

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## 1.67 Lunar Orbiter 3

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## 1.68 Lunar Orbiter 4

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## 1.69 Lunar Orbiter 5

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## 1.70 Magellan

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### **1.71 Mariner 1**

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### **1.72 Mariner 2**

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### **1.73 Mariner 3**

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### **1.74 Mariner 4**

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### **1.75 Mariner 5**

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### **1.76 Mariner 6**

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### **1.77 Mariner 7**

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### **1.78 Mariner 8**

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### **1.79 Mariner 9**

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### **1.80 Mariner 10**

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### **1.81 Mars 1**

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### **1.82 Mars 2**

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### **1.87 Mars 7**

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### **1.88 Mars 96**

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### **1.89 Mars 98**

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### **1.90 Mars 1969A & Mars 1969B**

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### **1.91 Mars Observer**

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## 1.92 Mars Pathfinder

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## 1.93 Mars Surveyor

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## 1.94 Phobos 1

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## 1.95 Phobos 2

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## 1.96 Pioneer 1

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## 1.97 Pioneer 2

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## 1.98 Pioneer 3

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## **1.99 Pioneer 4**

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## **1.100 Pioneer 6**

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## **1.102 Pioneer 8**

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## **1.103 Pioneer 9**

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## **1.104 Pioneer 10**

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## **1.105 Pioneer 11**

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### **1.106 Pioneer 12 (Pioneer Venus)**

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### **1.107 Pioneer E**

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### **1.108 Pluto Fast Flyby**

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### **1.109 Ranger 3**

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### **1.110 Ranger 4**

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### **1.112 Ranger 6**

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### **1.113 Ranger 7**

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### **1.114 Ranger 8**

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### **1.115 Ranger 9**

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### **1.116 Sakigake**

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### **1.117 Sputnik7**

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### **1.118 Suisei**

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### **1.119 Surveyor 1**

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### **1.120 Surveyor 2**

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### **1.121 Surveyor 3**

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### **1.124 Surveyor 6**

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### **1.125 Surveyor 7**

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### **1.126 Ulysses**

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### **1.127 Unannounced spacecraft**

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### **1.128 Vega 1 & 2**

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### **1.129 Venera 1**

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### **1.130 Venera 2**

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### **1.134 Venera 6**

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### **1.140 Venera 12**

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### **1.141 Venera 13**

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### **1.142 Venera 14**

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### **1.143 Venera 15**

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### **1.144 Venera 16**

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### **1.145 Viking 1**

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### **1.146 Viking 2**

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### **1.147 Voyager 1**

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### **1.148 Voyager 2**

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### **1.149 Zond 1**

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### **1.150 Zond 2**

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### **1.151 Zond 3**

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### **1.152 Zond 4**

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### **1.153 Zond 5**

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### **1.154 Zond 6**

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## 1.155 Zond 7

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