

## **Spacecraft**

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	<i>TITLE :</i> Spacecraft		
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<b>REVISION HISTORY</b>
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NUMBER	DATE	DESCRIPTION	NAME

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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	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
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

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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
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
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
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	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
OAO 1		Earth satellite
OAO 1 Rocket/Body		Earth satellite
OAO 2		Earth satellite
OAO 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
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	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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## 1.9 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

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## 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

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## 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

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.

## 1.20 Explorer 35

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.

## 1.21 Explorer 49

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.

## 1.22 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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## 1.79 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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## 1.101 Pioneer 7

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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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### 1.111 Ranger 5

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### 1.112 Ranger 6

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### 1.113 Ranger 7

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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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### **1.122 Surveyor 4**

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### **1.123 Surveyor 5**

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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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### 1.131 Venera 3

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### 1.135 Venera 7

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### 1.136 Venera 8

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### **1.137 Venera 9**

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### **1.138 Venera 10**

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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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### **1.154 Zond 6**

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### **1.155 Zond 7**

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