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Space Exploration

Space exploration is our human response to curiosity about Earth, the moon, the planets, the sun and other stars, and the galaxies. Piloted and unpiloted space vehicles venture far beyond the boundaries of Earth to collect valuable information about the universe. Are you ready to explore space? Let's blast off!

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Find It!

Find the answers to the questions below by using the "Search" tool to search key words. Type in the key words "space exploration" to go to the article "Space exploration." Write the answer below each question.

1. Where does space begin?
2. Who was the first scientist to describe travel to other worlds?
3. Who was the first scientist to describe the laws of motion?
4. What is the name of the first artificial satellite to orbit Earth?
5. Which country launched the first artificial satellite to orbit Earth?
6. What was the first Soviet program to send a human being into space called?
7. What was the first United States program to send a human being into space called?

***Users of the Advanced database can find extension activities at the end of this webquest.**

8. Look at the image “First seven U.S. astronauts.” Write their names on the lines below:

_____	_____
_____	_____
_____	_____
_____	_____

9. How many times did Apollo astronauts land on the moon?

10. How many astronauts did each of the Apollo missions carry? (Hint: For this question, see also the “Apollo” article.)

.....
True or False

Write “True” if the statement about Space exploration is correct. If the statement is not correct, write “False” and correct the statement in the space below.

- _____ 11. The “space race” was a speed race between the Soviet Vostok rocket and the American Atlas rocket in 1961.

- _____ 12. The United States was the first country to launch a probe aimed at another planet.

- _____ 13. The United States was the first country to launch space probes that landed on Mars.

- _____ 14. The Soviet Union launched the first space station.

- _____ 15. The American spacecraft company SpaceX has received funding from NASA to build spacecraft.

- _____ 16. Space probes have been sent to every planet in the solar system.

- _____ 17. The United States is the only country to have a lunar program.

- _____ 18. The first person to die in a piloted space program was an American astronaut.

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Name the Astronaut or Cosmonaut - Timeline

Write the name of the astronaut or cosmonaut on the line to the left of their description. Then, on the line to the right, write the number from 1 to 11 to place their famous feats in chronological order.

_____ 19. First person to set foot on the moon _____

_____ 20. First person to travel in space _____

_____ 21. First chimpanzee in space _____

_____ 22. First woman in space _____

_____ 23. Broke the record for consecutive days in space by a woman _____

_____ 24. First American in space _____

_____ 25. First American to orbit Earth _____

_____ 26. First person to orbit Earth _____

_____ 27. First American to walk in space _____

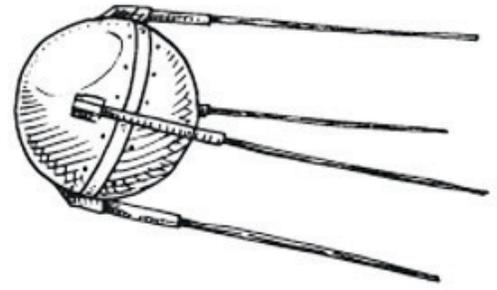
_____ 28. First person to walk in space _____

_____ 29. First dog in space _____

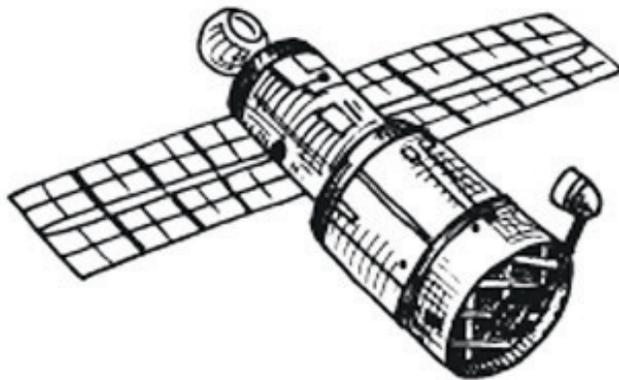


Find the Spacecraft

Questions 30-44. Find the names of famous spacecraft hidden within the puzzle from the list below. The names may be spelled out vertically (up and down), horizontally (across), or diagonally (slanted). Also, the names may be spelled in the right order, or they may be spelled backwards.



APOLLO	Z	E	M	C	H	A	N	D	R	A	T	W	M	F	U
CASSINI	H	L	E	M	N	I	B	G	E	M	I	N	I	Y	L
CHALLENGER	L	C	G	G	B	X	E	Z	U	Z	G	I	G	S	S
CHANDRA	H	Y	K	Z	U	U	D	J	E	V	D	U	P	N	N
COLUMBIA	S	R	R	I	I	N	I	S	S	A	C	U	R	E	O
GALILEO	M	C	D	G	O	K	P	W	U	Y	T	J	E	W	Z
GEMINI	O	A	T	T	E	S	O	R	B	N	X	Z	G	N	I
MERCURY	E	A	V	C	M	Z	W	W	I	U	T	I	N	M	R
MIR	L	K	H	O	J	U	I	K	O	L	Y	X	E	E	O
NEW HORIZONS	I	R	U	L	K	Y	Y	A	P	M	R	O	L	R	H
ROSETTA	L	L	Q	U	G	O	J	J	S	I	M	D	L	C	W
SOYUZ	A	R	P	M	M	S	T	P	Q	R	S	M	A	U	E
SPUTNIK	G	F	X	B	J	C	P	S	C	Q	H	A	H	R	N
VOSTOK	Z	T	K	I	B	Z	A	P	O	L	L	O	C	Y	X
VOYAGER	R	E	G	A	Y	O	V	T	K	V	L	Z	R	J	F



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Extension Activity 1

Space exploration is exhilarating, but not all missions have been successful. There have been a number of disasters and near-disasters in the history of space exploration. Many astronauts have risked their lives in the human quest to conquer the final frontier. Describe a space disaster that you have read about that especially interested or affected you. Why did this event interest you? Do you think it is worth the cost of human life to explore space with crewed space missions?

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Extension Activity 2

Space exploration is very costly. Is it worth it for countries to spend a lot of money on space exploration programs? Why or why not?

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Extension Activity 3

Private companies have begun launching people into space. Would you want to visit another planet or any other celestial body? Assuming you could safely travel anywhere in space, where would you go? Would you go if you knew you could never return to Earth?

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Human Space Exploration. Chicago: World Book, 2013. Explore the Solar System. *World eBook*. Web. 29 Nov. 2018.

<http://www.worldbookonline.com/wb/ebooks/mall/instit/catalog/urn:ISBN:978-0-7166-1896-6/detail.do>.

Space Exploration. Chicago: World Book, 2014. A Look At.... *World eBook*. Web. 29 Nov. 2018.

<http://www.worldbookonline.com/wb/ebooks/mall/instit/catalog/urn:ISBN:978-0-7166-3326-6/detail.do>.

Teacher Page

Answers

1. Most experts say that space begins somewhere beyond 60 miles (95 kilometers) above Earth.
2. Johannes Kepler was the first scientist to describe travel to other worlds.
3. Sir Isaac Newton was the first scientist to describe the laws of motion.
4. Sputnik is the name of the first artificial satellite to orbit Earth.
5. The Soviet Union launched the first artificial satellite to orbit Earth.
6. The first Soviet program to send a human being into space was called Vostok.
7. The first United States program to send a human being into space was called Mercury.
8. The seven U.S. astronauts:
 - M. Scott Carpenter
 - Gordon Cooper
 - John H. Glenn, Jr.
 - Virgil I. Grissom
 - Walter M. Schirra, Jr.
 - Alan B. Shepard, Jr.
 - Donald K. Slayton.
9. Apollo astronauts landed on the moon six times between 1969 and 1972.
10. Each of the Apollo missions carried three astronauts.
11. False. The “space race” was a period of intense competition between the United States and the Soviet Union in the 1960’s and 1970’s to achieve supremacy in space exploration.
12. False. The Soviet Union launched the first probes aimed at another planet, two Mars probes, in 1960. However, neither probe reached orbit.
13. False. In 1971, the Soviet probe Mars 3 dropped a capsule that made the first soft landing on Mars. However, the capsule failed to return usable data. Two U.S. probes, Viking 1 and Viking 2, landed on Mars in 1976 and operated for years, measuring surface weather and conducting complex experiments to detect life forms.
14. True.
15. True.
16. True.
17. False. Officials in the Soviet Union publicly denied there had ever been a Soviet equivalent to the Apollo program. But in the late 1980’s, the Soviet Union began to release new information indicating that the Soviet government actually had an ambitious lunar program that failed.
18. False. The first fatality in a piloted space program occurred on March 23, 1961. A Soviet cosmonaut trainee named Valentin V. Bondarenko burned to death in a pressure chamber fire. Soviet officials covered up the accident.

19. Neil A. Armstrong	First person to set foot on the moon	10
20. Yuri Gagarin	First person to travel in space	3
21. Ham	First chimpanzee in space	2
22. Valentina Tereshkova	First woman in space	7
23. Shannon Lucid	Broke the record for consecutive days in space by a woman	11
24. Alan B. Shepard, Jr.	First American in space	4
25. John H. Glenn, Jr.	First American to orbit Earth	6
26. Gherman Titov	First person to orbit Earth	5
27. Edward H. White II	First American to walk in space	9
28. Alexei A. Leonov	First person to walk in space	8
29. Laika	First dog in space	1

30.-44. Word Search Solution:

Z E M C H A N D R A T W M F U
H L E M N I B G E M I N I Y L
L C G G B X E Z U Z G I G S S
H Y K Z U U D J E V D U P N N
S R R I I N I S S A C U R E O
M C D G O K P W U Y T J E W Z
O A T T E S O R B N X Z G N I
E A V C M Z W W I U T I N M R
L K H O J U I K O L Y X E E O
I R U L K Y Y A P M R O L R H
L L Q U G O J J S I M D L C W
A R P M M S T P Q R S M A U E
G F X B J C P S C Q H A H R N
Z T K I B Z A P O L L O C Y X
R E G A Y O V T K V L Z R J F

Extension Activities 1, 2, and 3: Answers will vary.