
(lunar far side)

1
00:00:05,670 --> 00:00:01,399
[Music]

2
00:00:07,950 --> 00:00:05,680
what's up for July this month NASA is

3
00:00:10,740 --> 00:00:07,960
celebrating the 50th anniversary of the

4
00:00:12,629 --> 00:00:10,750
Apollo 11 mission making the first human

5
00:00:14,009 --> 00:00:12,639
landing on the moon while looking

6
00:00:16,380 --> 00:00:14,019
forward to the future of lunar

7
00:00:19,109 --> 00:00:16,390
exploration so this month a special

8
00:00:20,970 --> 00:00:19,119
edition of what's up here are 5 things

9
00:00:22,499 --> 00:00:20,980
about the Moon that you can share with

10
00:00:25,260 --> 00:00:22,509
others when you're gazing up at our

11
00:00:27,659 --> 00:00:25,270
natural satellite how far away is the

12
00:00:30,060 --> 00:00:27,669
moon the moon is farther away from Earth

13
00:00:31,950 --> 00:00:30,070

than people often think a good ballpark

14
00:00:34,290 --> 00:00:31,960
number to remember is that the moon is

15
00:00:37,860 --> 00:00:34,300
about a quarter of a million miles away

16
00:00:39,959 --> 00:00:37,870
or about 400,000 kilometers it's such a

17
00:00:42,209 --> 00:00:39,969
big gap that you could just about fit

18
00:00:44,910 --> 00:00:42,219
the other seven major planets into the

19
00:00:46,169 --> 00:00:44,920
space between the two worlds astronauts

20
00:00:48,569 --> 00:00:46,179
from three of the Apollo missions

21
00:00:50,489 --> 00:00:48,579
including Apollo 11 placed special

22
00:00:52,079 --> 00:00:50,499
reflectors on the lunar surface that are

23
00:00:54,689 --> 00:00:52,089
still used to determine the moon's

24
00:00:56,459 --> 00:00:54,699
distance with extreme precision in fact

25
00:00:58,319 --> 00:00:56,469
they've revealed that the moon is moving

26
00:01:01,590 --> 00:00:58,329
away from Earth by about an inch and a

27
00:01:03,149 --> 00:01:01,600
half per year how big is the moon this

28
00:01:05,249 --> 00:01:03,159
one's another easy approximation to

29
00:01:07,069 --> 00:01:05,259
remember the moon is about one-fourth

30
00:01:10,609 --> 00:01:07,079
the size of Earth in diameter

31
00:01:13,770 --> 00:01:10,619
it's about as wide as the United States

32
00:01:16,170 --> 00:01:13,780
what color is the moon the moon doesn't

33
00:01:18,780 --> 00:01:16,180
emit its own light it reflects light

34
00:01:20,969 --> 00:01:18,790
from the Sun and up close the moon's

35
00:01:24,120 --> 00:01:20,979
surface is mostly grey like old

36
00:01:26,429 --> 00:01:24,130
well-worn asphalt why do we always see

37
00:01:28,499 --> 00:01:26,439
the same side of the Moon now it may not

38
00:01:31,230 --> 00:01:28,509

look like it but the moon really does

39
00:01:33,060 --> 00:01:31,240
rotate on its axis much like Earth we

40
00:01:35,069 --> 00:01:33,070
always see essentially the same face of

41
00:01:36,929 --> 00:01:35,079
the moon because it orbits around Earth

42
00:01:39,359 --> 00:01:36,939
in the same amount of time it takes to

43
00:01:41,069 --> 00:01:39,369
rotate the reason is related to gravity

44
00:01:43,770 --> 00:01:41,079
and the same forces that cause daily

45
00:01:45,389 --> 00:01:43,780
ocean tides a side note is that since

46
00:01:47,670 --> 00:01:45,399
it's rotating there really is no

47
00:01:49,499 --> 00:01:47,680
permanent dark side of the Moon the

48
00:01:51,330 --> 00:01:49,509
changing phases of the Moon demonstrate

49
00:01:53,760 --> 00:01:51,340
how the portion of its surface that's

50
00:01:55,349 --> 00:01:53,770
lit by the Sun revolves around the moon

51
00:01:58,700 --> 00:01:55,359
every month over the course of the lunar

52
00:02:00,990 --> 00:01:58,710
day what are the dark areas on the moon

53
00:02:02,700 --> 00:02:01,000
one of the main things you notice when

54
00:02:04,999 --> 00:02:02,710
observing the moon is that it has these

55
00:02:06,990 --> 00:02:05,009
bright and dark areas across its surface

56
00:02:09,969 --> 00:02:07,000
everybody's familiar with the man in the

57
00:02:13,690 --> 00:02:09,979
moon right the dark areas are known as

58
00:02:16,240 --> 00:02:13,700
moire the Latin word for seas the lunar

59
00:02:18,640 --> 00:02:16,250
Mari are volcanic basins created in the

60
00:02:21,399 --> 00:02:18,650
aftermath of ancient impacts billions of

61
00:02:23,649 --> 00:02:21,409
years ago after the impact the craters

62
00:02:26,800 --> 00:02:23,659
filled with lava which eventually cooled

63
00:02:28,360 --> 00:02:26,810

to form smooth dark plains one of the

64
00:02:30,759 --> 00:02:28,370
most famous moiré is the Sea of

65
00:02:33,250 --> 00:02:30,769
Tranquility this was the landing site

66
00:02:36,430 --> 00:02:33,260
chosen for Apollo 11 in part because it

67
00:02:38,350 --> 00:02:36,440
was fairly smooth and level to locate

68
00:02:41,830 --> 00:02:38,360
the Sea of Tranquility look for these

69
00:02:43,479 --> 00:02:41,840
two large dark markings that overlap if

70
00:02:45,759 --> 00:02:43,489
you're facing south they will be on the

71
00:02:48,069 --> 00:02:45,769
moon's right side tranquility is the

72
00:02:51,670 --> 00:02:48,079
lower of the two and the Apollo 11

73
00:02:53,559 --> 00:02:51,680
landing site is right here 50 years on

74
00:02:55,479 --> 00:02:53,569
NASA continues to reveal the moon's

75
00:02:57,250 --> 00:02:55,489
secrets with an eye towards sending the

76
00:02:57,900 --> 00:02:57,260
next human astronauts there in the near

77
00:03:03,240 --> 00:02:57,910
future

78
00:03:07,360 --> 00:03:05,770
you can learn more about Apollo and

79
00:03:10,509 --> 00:03:07,370
NASA's future plans for the moon at

80
00:03:12,280 --> 00:03:10,519
nasa.gov I'm Preston dykes from NASA's

81
00:03:14,950 --> 00:03:12,290
Jet Propulsion Laboratory and that's